Supplementary Report

of

School Education Committee, West Bengal

[The Committee was set up by the Government of West Bengal, vide G. O. No 1693-S.E. (S), School Education Department, Secondary Branch, dated the 20th September 2001 and the term was extended from time to time upto 31st December 2003.]

Office of the School Education Committee
25/3, Ballygunge Circular Road,
Kolkata – 700 019

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Presented to
Dr. Suhas Chatterjee,
Director, Indian School of Social Sciences,
Calcutta.
With personal regards from
R.G. Mukherjee 22/2/06
(Chairman, School Education Committee, W.B.)

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SUPPLEMENTARY REPORT

CONTENTS:

Part – A : Recommendations base on Workshop proceedings.

Part – B : Report on Achievement survey on Language Learning

Supplementary Report
of
The School Education Committee, West Bengal

(Part – A)

Recommendations bas^e on Workshop proceedings

Supplementary Report of School Education Committee

SUPPLEMENTARY REPORT (PART – A)

INTRODUCTION

After the School Education Committee submitted its report to the Hon'ble Minister of School & Madrasah Education on 31st December, 2002, State Government by its order No. 27 Edn.s dated 6.1.03 extended the committee's tenure for 3 months requesting it to undertake some incidental works. The Committee in its meeting held on 29th January, 2003 decided to organise a workshop for enriching and elaborating a few of its recommendations thereby facilitating their implementation. Following are the matters that were proposed to be placed at the workshop for consideration:

a) The school complex
b) Life style education
c) Improving teaching of Science subjects
d) Vocational education
e) School session and related matters.

A note on the objectives of the workshop along with approach papers relating to all the five topics of discussion were sent to the invitees beforehand. Considering the nature of these works the Government further extended the Committee's tenure upto 30th September, 2003.

In terms of this decision, a three – day workshop was held from 9th to 11th June this year at the premises of Ballygunge Government High School, Kolkata. The workshop, attended by a large number of reputed organisations and individuals associated with school education in different capacities was inaugurated by the Hon'ble Minister-in-Charge of School and Madrasah Education, Shri Kanti Biswas. In his highly inspiring speech, the Minister presented his views and some valuable suggestions on the major aspects of the topics of the workshop (An English version of his speech is included in this report with his kind consent).

The Committee is glad to report that the deliberations during the 3 days were highly constructive and meaningful. The participants examined all aspects of the issues from different angles with deep insight. Some of the sessions witnessed animated debate with rigorous argument. The Committee takes this opportunity to express its heartfelt gratitude to the learned participants for their commendable contribution to the Committee's task. The observations and suggestions of the workshop were scrutinised by the Committee and adopted after necessary editing.

The other venture the Committee undertook was a limited survey, rather a case study, to assess the level of language competency (Bengali and English) acquired by the students after four years of schooling. The study was conducted in 37 schools spread over eight districts of West Bengal covering about 2000 students who had just joined class V. The selection of schools was in a sense arbitrary, but covered both rural and urban institutions and included both highly reputed, ordinary and even weak schools. The students were asked to answer three questions in Bengali and three in English following syllabi prescribed for class IV. The specific competencies sought to be tested by each question were identified and the answer scripts were thoroughly evaluated on that basis. Besides answering these questions on the two subjects, the students had filled in a set of structured questionnaire to bring out some relevant facts about their family background as well as their perceptions and views about related matters. These responses are being statistically analysed and compared with schoolwise performance in the language test. The analysis of huge amount of data which has been generated, is being made and will take some more time. The findings will be presented in a subsequent report. The committee hopes that the study, admittedly limited in coverage will make some interesting revelations.

English version of the Inaugural speech delivered by Sri Kanti Biswas, Hon'ble MIC, Department of School Education & Madrasah (W.B.).

The School Education Committee had submitted its report to the government in December, 2002. Still the term of the Committee has been extended upto September, 2003 by the Govt. to take up some incidental works related to its report. There is no question of changing or modifying the report submitted to the government. Why then this workshop? This workshop will immensely help the government to properly comprehend and implement the observations and the recommendations laid out in the report. In fact, the Committee's contribution towards making the government's work smoother and more complete is quite significant. This Committee deserves to be thanked for this. It is highly inspiring to note that organisations like West Bengal Council of Higher Secondary Education, West Bengal Board of Secondary Education, West Bengal Board of Madrasah Education, State Council of Educational Research & Training (West Bengal), many educational institutions, Dept. of Health (Govt. of West Bengal), a few NGOs and the recognised Secondary Teachers' Associations are taking part in this workshop. The government will be specially benefited through their deliberations to make the said report implementable.

The issues to be discussed in the workshop are divided into five heads –

1) School Complex
2) Life-skill education or life style education or Adolescence education or Sex education.
3) Vocational education.
4) Teaching-learning of science subjects.
5) Review of the academic session and ascertaining the teaching days available in the light of number of holidays.

1) **School Complex**

a) The Kothari Commission (1964-66) had recommended that school complexes may be formed encompassing 10 – 20 schools. In their report they also presented the justification of Neighbourhood Schools.

b) The concept of School Complex was repeated in the National Policy of Education (1986) and its modified version (1992). However, this document wanted to include 8 – 10 schools in a complex.

c) In the eighth five Year Plan it was envisaged to complete the formation of School Complexes all over the country, but it was not implemented at all.

d) In the present situation, the necessity of formation of School Complex has greatly increased because of weakness of the school infrastructure, scarcity of teachers etc.

e) The process of recruitment of teachers through School Service Commission has created a favourable situation for the formation of school complexes.

f) There is an on-going debate whether school complex should be compulsory or should be left to the goodwill of the schools. There are practical hindrances in making the process compulsory. Again it will not be possible to form the complexes if it is made completely voluntary. The experience so long says so. The WBBCHSE, WBBSE and WBBME have to take the initiative so that the managing committees and teachers come forward to play their role in the formation of school complexes. The teachers have to be inspired to act as organisers in this respect. The present committee has given due importance to this issue. Some efforts had already been made in this direction in Burdwan and Hooghly and the results are reported to be encouraging.

2) **<u>Life-skill education or life style education or Adolescence education or Sex education.</u>**

One of the chief characteristics of adolescence is inquisitiveness, curiosity and the spirit of enquiry. These faculties or tendencies are created by the process of physiological and psychological developments experienced during this period. That is why 'adolescence' is described as the period of storm and stress.

According to the World Development Indicator Report (2003), published by the World Bank, prevalence of HIV in the age group 15 – 24 is as follows:

	Male percentage	Female percentage
India	0.34	0.71
World Average	0.77	1.34

The number of HIV-infected persons is highest in India among all the countries of the world. In 1997, 23 lakh people, including 4,60,000 children, died of AIDS. The number of HIV-infected persons is unfortunately increasing every year. On 21st September 1998, 'India Today' published the report of 8 independent studies conducted under the All India National Population Fund Survey. The results of the survey showed that one boy out of every 10 boys upto 16 years of age has direct sexual experience. The Marketing Research Group conducted a survey in 15 girls' school of Mumbai. In this survey, information was collected from 430 students. Of these girls, 13% had experienced actual sexual intercourse. The gravity of the danger is evident from these data.

Dr. Achal Bhagat, psychiatrist, Apollo Hospital, remarks, "More than any other generation in this century, children today experiment with sex, drugs, alcohol, the good things in life."

According to Bertrand Russell, "It is important that information on sexual objects should be given in exactly the same tone of voice and in the same manner as information on other subjects. And it should be given with the same directness. The teacher must realise and emphasise that human sexuality is a means of communication, a form of discourse, in which the whole personality is involved."

Who will teach? – "Not only science teachers or medical practitioners, who usually teach only the anatomical part of sexuality in their lecture."

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Who will teach? – "Not only science teachers or medical practitioners who usually teach only the anatomical part of sexuality in their lecture."

This Committee has rightly commented that, "It is to be ascertained how this education can be made consistent with our culture, our value system and our heritage." We have to find out ways for proper presentation of each portion.

In this context, the Kothari Commission held the view that, "Knowledge without essential values is dangerous." So if such education is value free and delinked from national culture, it would become dangerous and we have to be cautious of this.

This issue first gained importance in the All India meeting held in 1969. A national seminar was organised in August that year in Mumbai on National Population Education. That seminar recommended the introduction of this education from the school level. But till now this type of education has not been meaningfully instituted anywhere.

When the 10+2 pattern of education was started, initiative was taken to include this subject in the curriculum of Life Science. There too the result was not as desired.

The National Council of Educational Research & Training (NCERT) organised an All India seminar on this topic on 12th and 13th April, 1993. I myself participated in that seminar. Several recommendations were put forward, but not much progress could be made.

Extreme conservatism on one hand and too much enthusiasm on the other can do great harm to adolescence education. For this a balance has to be maintained between the two and the issue has to be analysed objectively with a pragmatic view. If the decision is not taken carefully, such education may create problems in future. Again, under the prevailing circumstances, it would be suicidal to avoid the issue. For this reason, the nature of such education has to be determined keeping in mind the need for inculcation of values and development of mental health and also taking into account the special features of adolescence. This workshop will give due attention to the issue and place its recommendations to the government.

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3) **Vocational education.**

Vocational education can never be vocationalisation of education. An all-out effort should be made to enable the students to get jobs after undergoing this course. They may be self-employed or wage-earners. The Mudaliar Commission (1952-53) had recommended multipurpose higher secondary education while laying stress on vocational education. The Kothari Commission (1964-66) gave proper weightage to the issue. The Adiseshia Committee submitted a valuable report in 1978. The report was titled 'Learning to Do'. Dr. Ashok Mitra Commission (1991-1992) prescribed vocational education after class VIII. But vocational education has failed miserably in our state. This year 6,00,000 students have appeared for the Madhyamik or High Madrasah examinations. Only a part of this will join higher education. For the rest, the spectre of unemployment is looming large. In order to save them from this anxiety, proper importance has to be given to vocational education. Vocational education can never be based on theory alone. There should be due stress on practical training. We have to think how the present infrastructure can be used for this purpose. According to the report of Economic Survey (2002-2003) published by the Central Government: - Total strength of Central Government establishments,

On 01.03.2000	Actual	37,76,666
On 01.03.2003	Actual	35,13,367
		2,63,299

This shows that in the last 3 years, the number of central government employees has decreased by 2,63,299. The report further tells that the number of centrally registered unemployed persons is 4,26,00,000. 70% of them have passed Madhyamik. The present number of registered unemployed persons in West Bengal is 63,60,000.

4) **Teaching-learning of science subjects**.

The World Science Report has branded India's position as gloomy. According to the World Development Indicator, 2003, the number of scientists and engineers per million population is very low in our country. This is evident from the table below:-

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4) Teaching-learning of science subjects

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Country	No. of scientists and engineers per million population
India	157
Japan	5,095
Canada	2,985
Finland	5,059
Vietnam	174
U.S.A.	4,099

25% of tertiary students in India are in Science stream.

We have to evolve methods to use trivial, easily available and low-cost materials for teaching science and developing scientific attitude. WBBPE has successfully adopted a special programme for this purpose.

5) **School session, holidays and days available for teaching-learning.**

A. The number of holidays in our country is quite high, as is evident from the following table: -

General holidays in government offices in a year

Country	**No. of holidays**
U.S.A.	20
Japan	23
Canada	24
South Korea	26
U.K.	30
Germany	35
France	36
Brazil	40
Italy	42
India	43

According to the norms determined by UNESCO, at the primary level 900 hours per year and at the secondary level 1100 – 1200 hours per year or at least 1000 hours a year

should be devoted to teaching-learning. The Education Commission of our country has recommended to allot 200 days in a year for teaching-learning at the secondary level.

In India, the pattern of school holidays per year is as follows: -

Kerala	-	80days	Madhya Pradesh	-	65days
Tamilnadu	-	57days	Assam	-	45days
Punjab	-	65days	Maharashtra	-	80days
Himachal Pradesh	-	65days			

The number of teaching days available even after these holidays and days spent for examinations are:-

State	No. of days
Kerala	200
Orissa	260
Mizoram	220
Meghalaya	220
Manipur	220
Nagaland	220
Assam	261
Rajasthan	245

It can be seen that in the states other than West Bengal at least 200 days are kept for teaching-learning. Taking 5 hours on an average per day for 200 days, 1000 hours are available in a year for teaching-learning. We have to take these facts into consideration.

The agenda of the workshop include discussion about the month from which the academic session should begin. In this respect, the all India picture is like this:-

i) Starting from June –

Andhra Pradesh, Goa, Gujrat, Karnataka, Kerala, Tamilnadu (6 states).

ii) Starting from July –

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(ii)Starting from July –
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iii) Starting from April –

Arunachal Pradesh, Haryana, Maharashtra, Punjab, Jammu & Kashmir, Mizoram, Nagaland (7 states)

Also C.B.S.E., I.C.S.E, and I.S.C.

Bihar – Although it started from other month at first, the session has been shifted forward or backward by 1 – 2 months on the basis of experience.

Issues to be considered –

1) Total number of days of teaching-learning in a year.
2) Evaluation of annual, secondary and higher secondary examination answerscripts.
3) The financial condition of the guardians in general at the beginning of the session.
4) The seasonal environment of the state.
5) To maintain parity with other states of this vast country by taking possible measures.

The recommendations may be put forward after considering the views of the present Committee on this issue. It is also necessary to form opinion regarding the abolition of Test Examination at the secondary and higher secondary levels as suggested by the Committee.

School Complex

The following approach paper was placed at the workshop: -

The unprecedented expansion of school education in West Bengal during the last two decades has earned appreciation from all quarters. There has also been remarkable change in the attitude of the common people who strongly desire to send their children to school. But in the face of increasing resource constraint this success has told upon quality of education. The general experience is that quality of teaching-learning varies widely from school to school.

The Education Commission under the chairmanship of Dr. D. S. Kothari had in its report (1960) drawn attention to the disturbing phenomenon of social segregation in our schools. The Commission pointed out that 'such segregation should be eliminated if education is to be made a powerful instrument of national development in general, and social and national integration in particular'. To that end the Commission recommended the idea of neighbourhood schools which requires that 'each school should be attended by all children in the neighbourhood irrespective of caste, creed, community, religion, economic condition or social status so that there would be no segregation in schools'.

However, for a number of reasons this system could not be adopted. After thirty seven years, we now find that the problem of social segregation has further intensified with its harmful impact on the society in general and the education system in particular. In fact, in the urban and metropolitan areas search for better schools on the part of anxious parents has become almost a craze. Arresting this menacing trend is an urgent task that calls for concerted effort by all concerned. The first objective of such effort should be to ensure even development of quality of teaching-learning in all the schools. The objective condition in West Bengal today is by and large favourable for this because of the following positive developments:

a) The same management pattern is followed by almost all the recognised schools.

b) Centralised selection through School Service Commission ensures availability of good teachers to all schools, rural and urban.

c) It is possible to make need-based allocation of Government grants to the schools, although the total amount is inadequate in view of the increasing demand.

One major step towards consolidation and optimum use of available resources and facilities for improving standard of teaching is setting up school complex as recommended by the Kothari Commission and subsequently reiterated by the Education Commission chaired by Dr. Ashok Mitra (1992).

The concept of school complex has been widely discussed for quite a long time. In some parts of West Bengal, the idea has been tried out through local initiative on voluntary basis with mixed experience. It is felt that in the situation now prevailing in the field of school education in this state, a comprehensive network of school complexes should be established through careful planning and sustained effort.

Formation of the Complex

Six to ten schools of a locality may be included as members of one complex. These should include junior high, high and higher secondary schools. The exact number of schools in a particular case shall be determined by considering communication facilities. Separate clusters may be set up exclusively for primary schools.

Functions of the Complex

a) Adoption of common programmes relating to teaching-learning activities, evaluation, extra curricular activities including camping and social service.

b) Sharing of resources like library, laboratory, computers and teaching aids, auditorium, playgrounds.

c) Sharing of services of specialised teachers for subjects like sports and games, music, art and craft, vocational courses.

d) Arranging regular health check-up including counselling for looking after the mental well being of the pupils.

e) Developing meaningful relation between the schools on the one hand and the parents and the local community on the other.

f) Facilitating inspection and monitoring of performance.

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f) Facilitating inspection and monitoring of performance.

Basic Principles

The complex should work with the spirit of mutual cooperation blended with friendly competition.

Organisation Structure

The affairs of the complex should be managed on broad-based democratic principles. A two-tier structure may be adopted. A larger body with participation from all categories of people from the schools and the community may be engaged in policy-making. The District Inspectorate should also be involved at this stage. The second level shall be a smaller executive committee with rotational representation. For formulation and implementation of detailed programmes a number of sub-committees in the fields of academic, co-curricular, financial, etc. may be set up.

Issues to Clinch

a) Whether the system should be voluntary or mandatory through statutory provision.

b) Sources of fund to meet the expenses of the complex.

c) Composition of the complexes indicating the authority structure.

d) Details of powers and functions.

e) Measures to effectively propagate the idea.

Views from the Workshop

Benefiting from the rich deliberations held at the workshop on the issues noted above, the Committee has come to the conclusion that the time has come to put the idea of school complex into practice. For making the scheme fruitful, it is necessary to bring all the recognised and aided schools – primary, secondary and higher secondary – into its fold. However, the Committee feels that it may not be immediately possible to make the system obligatory. To start with, it may be prudent to develop a few complexes on an experimental basis and work them for two years. Enriched with the experience, full-fledged statewide arrangement may be launched from 2005 – 2006.

The objectives of forming the School Complex.

a) To help achievement of universalisation of education by ensuring enrolment of all children and preventing cases of drop-outs.

b) To offer educational opportunity of comparable quality to all children through improvement of the teaching-learning process.

c) To remove social inequality in the field of education and to bring education within the reach of all people through community-participation.

d) To promote cooperation and healthy competition among the schools included in the school complex.

e) To develop each school by proper and optimum utilisation of the human and infrastructural resources available with the schools of the complex.

f) To inculcate civic sense and fraternal feeling among all the students of the region covered by the complex.

g) To spread indigenous and regional culture.

h) To create a proper atmosphere for the exchange of experience and opinion among the teachers of the member-schools so as to improve the teaching-learning process.

i) To allay the anxiety of parents about the quality of education provided to their wards.

j) To create cordial relationship among the Managing Committees of the member-schools for the overall development of education in the region.

Functions of the School Complex.

A. Primary Schools

a) To ensure enrolment of all children in the relevant age-group living in the area served by the complex.

b) To strengthen the drive against dropping out from schools.

c) To prepare plan for termwise curricular and co curricular activities.

d) To facilitate continuous assessment.

e) To implement corrective educational measures.

f) To share human and other resources among the schools of the complex.

g) To adopt various programmes for inculcating aesthetic, creative and cultural senses, among the students.

h) To develop infrastructural facilities of the member schools.

B. Secondary Schools

a) To work for universal enrolment of all children of the relevant age-group.

b) To adopt common programme of termswise teaching-learning.

c) To arrange sharing of human resources and infrastructural facilities to the best advantage of all the member schools. This should particularly focus as improved science teaching, computer literacy, co-curricular activities, art & aesthetic education etc.

d) To arrange termwise common internal evaluation. For this, the following arrangements may be made:
   - Using the same question papers.
   - Central evaluation of answer papers.
   - Identification of weaknesses and adoption of corrective measures.

e) To ensure that the directives of the WBBSE and WBCHSE are being followed by the member schools in selecting text books.

f) To make an effort for the improvement of infrastructural facilities of the member-schools.

g) To undertake various programmes like sports, camping, educational tours, exhibitions, competitions etc. for the inculcation of aesthetic, cultural and social sense and values.

h) To adopt developmental programmes.

i) To promote the spirit of mutual help.

Organisational Structure.

A school complex may be formed with 5 to 10 schools (junior high, high and higher secondary) taking into consideration the various geographical factors like communication, travelling facilities and the administrative set-up.

The complex may be named after an eminent educationist or a celebrity in any field.

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The working of the complex may be started through a general meeting convened by the head teachers of the proposed member-schools. All the teachers and employees of all the member-schools should be invited there. If possible, at least one girls' schools should be included in each complex. The following administrative and executive committees may be set up for the smooth functioning of the complex after mutual discussion in the meeting. This general convention may be held every year where the teachers and employees can participate to exchange their views, discuss various issues of education, organise cultural programmes, etc. and also adopt programmes for the next year.

The structure suggested here is by no means mandatory. This can be adopted and adapted according to local situation.

The following committees may be formed: -

a) School complex council (working)
b) Executive committee
c) Educational sub-committee
d) Health and sports sub-committee
e) Cultural sub-committee
f) Coordination committee
g) Financial and development sub-committee

<u>School complex council</u>

This council will be the highest policy making body. This body will adopt and implement policies on:

i. Problems of enrolment in the locality.
ii. Improvement of quality of education.
iii. Organisation of sports and cultural activities.
iv. Financial problems.
v. Library activities.

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Members:

i. Headmasters/mistresses of the member-school.

ii. Assistant headmasters/mistresses of the member-school.

iii. A teacher representative of each subject or group of subjects selected by the Staff Council of each school.

iv. A representative teacher selected from each stream in the H.S. schools.

v. A non-teaching staff representative of the staff council of all the schools.

vi. A guardian representative of the managing committee of each member-school.

vii. A student of class IX / XI of each school (nominated by the Head of the Institution).

viii. A representative of Shiksha Sthayee Samity of the local Panchayet or municipality.

ix. Local representative of Education Directorate.

x. Two invited retired head teachers or assistant head teachers.

xi. Librarian – one (nominated).

xii. All the heads of VEC / WEC of the region.

This council will meet twice in a year (may be in May and October). It will also form the following committees and sub-committees, deliberate on their recommendations and review their functioning. One third of the members should be present to make the quorum.

Working Committee

The school complex council will set up a working committee for a term of three years whose structure will be –

a) President – A head master / head mistress.

b) Vice-president – A head master / head mistress.

c) Secretary – An assistant head master / mistress.

d) Assistant Secretary.

e) Treasurer – Teacher / employee.

f) Members – The staff council of each school will nominate one person.

The functions of this committee will be –

i. To implement the policies and programmes adopted by the council.

ii. To see whether the recommendations of the various sub-committees are being implemented.

iii. To discuss the various problems in the field of mutual cooperation and healthy competition and to provide their solution.

iv. To ensure uniform quality of education in the member-schools.

v. To make an effort to implement neighbourhood school policy.

vi. To discuss the combined and independent financial problems of the member-schools and to provide financial assistance to weak schools.

vii. To see that the member-schools organise parent-teacher meeting at least once a year.

viii. To see that the coordination committee visits the member schools at least twice a year.

Education sub-committee

Members: –

i. One member of the Academic Council elected by the Staff Council of each member school. One of these members will convene the meeting of this sub-committee every year by turn.

ii. Two head masters / head mistresses nominated by the Complex Council (one should be preferably from girls' school).

iii. Secretary of working committee (ex-officio).

iv. Representative of local Panchayat or municipality.

v. Local representative of Educational Inspectorate.

vi. If required, subject teachers may be invited.

vii. Resource persons of various subjects.

viii. DIET representative.

ix. An evaluation group will be formed to look after the different aspects of evaluation (preparation of question paper, checking and evaluation of answer scripts etc.).

If necessary, subject teachers may be invited from outside.

The functions of this **sub-committee** will be –

i. To arrange for the enrolment of all children.

ii. To organise a workshop at the beginning of the year to chalk out a uniform classwise plan for teaching-learning. It should be seen that the students of all the member-schools get the list of annual academic plan in the beginning of the session.

iii. To formulate a common evaluation scheme for all the member-schools and to ensure its implementation. Common question papers may be prepared for internal examinations in all the schools.

iv. To organise cooperation in the field of education among all the schools.

v. To frame a common annual calendar for all the student.

vi. To review the progress of teaching-learning and evaluate at least once a year and adopt plans for improvement.

vii. To assess the educational atmosphere of the member-schools and problems of infrastructure and to recommend measures for their solutions.

viii. To create and maintain a healthy competition among the member-schools.

Sports and Health sub-committee members –

i. The teacher for physical education of each member-school, one of whom will be nominated as the convener.

ii. Two headmasters/headmistresses nominated by the complex council.

iii. Secretary of the working committee (ex-officio).

iv. A representative of the school relevant District Sports Association.

v. A nominated member of the local Panchayat or Municipality.

vi. A noted sportsperson or a member of a sports organisation of the region as an invited member.

vii. A noted physician of the area.

The functions of this **sub-committee** will be –

i. To organise an annual sports meet and also a health check up camp for the member-schools.

ii. To organise inter-school tournaments in outdoor games among the member-schools.

iii. To assist the member-schools in organising their own sports and games.

iv. To organise inter-complex athletic competitions.

v. To arrange the participation of the talented students in regional, sub-divisional, district and state level sports meets.

vi. To identify the problems related to games and sports like non-availability of playgrounds, equipments etc. and to suggest ways for their solutions.

vii. To adopt a plan for the physical and mental development of the students of member-schools.

Cultural sub-committee

Members: –

i. One of the teachers involved in cultural programmes of each member-school. One of them will be the convener.

ii. Two assistant headmasters / headmistresses (AHM of a girls' school) nominated by the Complex Council. If there is no assistant headmaster / mistress in the school, an assistant teacher interested in cultural programmes will the member.

iii. Assistant secretary of the working committee (ex-officio).

iv. A nominated member of the local Panchayat or Municipality.

v. An invited librarian of the locality.

vi. One or more eminent personalities of the region.

The functions of this **sub-committee** will be –

i. To prepare an annual cultural work plan for the member-schools and to implement it through mutual cooperation.

ii. To organise cultural competitions for the member-schools.

iii. To organise a cultural week by turn every year in each member-school where there will be week-long programme of art exhibitions, recitations, music, dance etc.

iv. To promote a healthy social environment; to identify problems relating to infrastructure and to recommend solutions.

v. To assist the member-schools in publishing monthly wall magazine and annual magazine and to publish a magazine of the complex itself at least once a year.

vi. To encourage the students to use their school libraries and if possible, to arrange the use of library of all the member-schools on an exchange basis.

vii. To adopt a working plan for attaining complete literacy for the region under the school complex and to involve all the students, ex-students and teachers of every member-school in the program.

Coordination sub-committee

Members: –

a) President and Secretary of the working committee (ex-officio). Secretary will be the convener of this sub-committee.

b) Two head masters/mistresses nominated by the complex council.

c) Government nominees in the managing committees of two member-schools (nominated by the Council).

d) One nominated member of the local Panchayat / Municipality.

e) A panel comprising of local retired headmasters/mistresses, experienced assistant headmasters/mistresses (may be changed from time to time).

Functions of the **sub-committee** will be –

i. To arrange inspection of every member-school at least twice a year.

ii. To review the progress of the inspection programmes and to present a report to the working committee through the secretary.

iii. Improvement of quality of education will be the main issue of inspection.

iv. To identify the problems regarding the administration of academic and co-curricular activities and discuss the same with the members of the staff council. The sub-committee will present a report of recommendations to the working committee.

v. To discuss the problems of the students.

vi. To discuss the various problems with the guardians and other beneficiaries.

Finance sub-committee

Members: –

a) President and Secretary of the working committee.

b) All heads of institutions in the complex.

c) One representative of the statutory finance body of the local Panchayat / Municipality.

d) One representative of the department of school education.

Functions of the **sub-committee** will be –

i. It is not possible to create a permanent fund for the school complex. The school Complex Council or the Working Committee may arrange for pooling of resources through various programmes. This sub-committee will maintain the accounts in this aspect and will get them approved in the meeting of the council.

ii. The complex council may pool the social resources for the overall development of educational and cultural activities and infrastructure of the complex. This sub-committee will maintain the accounts and will discuss and supervise the financial matters with the education directorate and Pancahyat Samity.

The member-schools may collect funds on their own.

Measures to spread the concept of School Complex all over the State –

1) A preparatory committee should be formed in every district. The members of this committee will include the representatives of the WBBSE, WBCHSE, teachers' organisations, inspectorate and noted educationists of the areas. They will propagate the concept of school complex in the district.

2) Pilot Projects should be started on an experimental basis in selected districts.

3) The WBBSE, WBCHSE, Education Directorate etc. may publish booklets on the concept.

4) The mass media should be utilised properly for this purpose.

Whether mandatory or voluntary –

a) The school complex should be started on a mandatory basis from the academic year 2005 – 2006.

b) The interim period between 2003 – 2004 and 2005 – 2006 should be used to spread the concept of School Complex in the community.

c) Some experimental school complexes may be formed during this period for demonstrating their benefits.

Sources of fund –

After elaborate discussion it was proposed that community has to be mobilised for getting financial support and assistance.

The Committee would like to reiterate that this is only a guideline to help formation of complex in different parts of the state.

LIFE STYLE EDUCATION

The approach paper:

Adolescence is a very crucial part of human life. Generally the tender age between 13 and 19 years is considered to be the adolescent period. In this period the teenagers undergo profound changes in their physical as well as mental conditions. The term 'Adolescence Education' was used for the first time by the UNESCO (POA), Bangkok as the title of a package on sex education. However, NCERT used this term not only as a euphemism for sex education with a view to enhancing its acceptability but also to broaden its scope to incorporate the critical concerns of adolescent reproductive health. Although there has been mounting pressure on school education system for the introduction of sex-related matters in the curriculum, there is a lot of variation in the conceptualisation of this educational area. Different concepts like sex education, sexuality education, family life education, reproductive health education and puberty education have been used to describe the nature of this educational area.

Adolescence education in India may be conceptualised on the basis of the following basic assumptions:

Adolescents confront a number of problems because of the lack of authentic knowledge regarding their process of growing up, particularly the issues relating to reproductive health. It is, therefore, necessary to provide them with authentic knowledge of their critical concerns with a view to inculcating in them rational attitude and responsible behaviour towards issues and problems of adolescence.

Adolescence education thus may be defined as "an educational endeavour to provide learners with accurate and adequate knowledge about adolescent reproductive and health with a focus on the process of growing up during adolescence, in its biological, psychological, socio-cultural and moral dimensions. It aims at inculcating in them rational attitude towards sex, phenomena of HIV / AIDS and drug abuse, so that they develop respect for the opposite sex and responsible behaviour towards sex and drugs" (NCERT).

As far as the School Education Committee has gathered, sex-related issues have not been made a part of school curriculum in other states of the country. Most of them handle this issue through the population education programme and teachers' guidebook. The Committee feels that in today's complex situation, these indirect interventions will not give the desired result. It has also been observed that a section of people are shunning their inhibition in this regard and are ready to accept some discussion on sex-related issues hitherto a taboo. The Committee's proposal for introducing life style education is based on a reading of this change in people's perception. The components of the programme of life style education will be partly within the curriculum but largely based on activities.

Considering that public mind is not as yet fully prepared to take this move favourably, the Committee proposes to make a cautious beginning. A small unit mainly on family life education is proposed to be added to the syllabus of life science for class VIII. Further contents for classes IX and X may be developed by arranging seminars and workshops for exchange of opinion among experts and after observing public reaction. It will also be necessary for the Government to adopt suitable measures to spread awareness about this issue in all sections of the population. Necessary activities outside the class room should also be planned with the help of experts in the field including psychologists.

The Committee on its own would suggest the following courses of action:

I. A 'sex-education museum' has recently been set up in Mumbai where relevant informations and instructions are given through models and charts. Setting up such centres at the block level may not be a very expensive proposition. Trained para-medical personnel, male for boys and female for girls, may be posted in these centres as instructors on part time basis. Students from class VIII upwards will be escorted in batches of 20 or so by some teachers to visit the museum.

II. A well-prepared code of conduct containing the do's and dont's may be given to the students of the relevant age-group.

As far as the Second Educational Programme [illegible], sex-related issues have not been made a part of school curriculum in other states of the country. Most of them [illegible] this issue through the population education programme and teachers' guidebook. The Committee feels that in such a complex situation, these indirect interventions will not give the desired result. It has also been observed that a section of people are [illegible] [illegible] in this Report and are ready to accept sex education on [illegible] related issues through a [illegible]. The Committee's proposal for introducing the sex education is based on a [illegible] of [illegible] change in people's perception. The components of the programme of the sex education will be partly within the curriculum but largely based on activities.

Considering that public mind is not as yet fully prepared to take this issue favourably, the Committee proposes to make a cautious beginning. A small unit mainly on family life education is proposed to be added to the syllabus of life science for class VIII. Further contents for classes IX and X may be decided later, according to evaluation and workshops for exchange of opinion among experts and other class view [illegible]. It will also be necessary for the Government to adopt suitable measures to spread awareness about this issue in all sections of the population. Necessary action to combat the aberrations should also be planned with the help of experts in the field including psychologists.

The Committee on the whole would suggest the following courses of action:

1. A 'sex-education museum' has recently been set up in Mumbai where relevant informations and instructions are given through models and charts. Setting up such centres at the local level may lead to a very consistent programme. Trained para medical personnel, male for boys and female for girls, may be posted in these centres as instructors on part-time basis. Students from class VIII upwards will be escorted in batches of 20 or so by their teachers to visit the museum.
2. A well prepared video of [illegible] [illegible] the do's and don'ts may be given to the students while relevant [illegible].

III. 'Meet the expert' sessions, separately for boys and girls, may be arranged where students will put their questions in writing in a box (without mentioning their names).

<u>**Views from the Workshop**</u>

There was incisive and animated deliberation on all the related issues in great detail. The participants broadly endorsed the Committee's approach to the problem including the proposed nomenclature "Life style education". They observed that school curriculum to be complete in all respects must address itself to the problems of adolescence that have been assuming alarming gravity over the years. Attention was drawn to the contemporary social situation and trends including the impact of consumerism and exposure to unhealthy messages from media.

Deriving from the definition quoted in the approach paper, the following areas of knowledge were identified:

a) **Biological** – Necessary knowledge should be imparted about the reproductive process, the sex organs, their growth and functions and hygienic care. All erroneous ideas and beliefs in these respects must be dispelled.

b) **Psychological** – The knowledge given should be sufficient to remove anxiety, apprehension and other forms of mental stress and strain emanating from ignorance, misinformation and suppressed curiosity.

c) **Socio-cultural** – In this part, pupils should be made familiar with the accepted norms of behaviour promoting healthy inter-personal relationship among members of society beginning from the family. The ties among caring parents, teachers and children have to be duly focussed. Proper peer-group relationship along with appreciation for opposite gender and the need for gender equity and equality should be developed.

d) **Moral** – Life-style education in its totality should take care of the students' mental and social well-being thus facilitating inculcation of the desired values. Through this part of education, students should learn to live together and gather sufficient moral strength to combat the evils of the present decadent society.

Nurturing the life skills: - For proper development of personality of the students, it is imperative to carefully nurture the essential life-skills. The list of such skills includes self-awareness or concept, self-esteem, self-disclosure, assertiveness, emotions management, stress management, decision-making and problem solving, empathy. The particular relevance of these skills at the adolescent stage should be clearly understood. It may be noted that these skills are mutually related, overlapping and indivisible. Also their development in the boy or girl is a time-taking process. A word of caution is needed here about assertiveness as a skill. Assertiveness to be positive presupposes choice of the right path. Assertiveness for a wrong cause may degenerate into arrogance and spell disaster.

The programme – Life-style education programme should be conducted partly through curriculum, but largely through co-curricular activities. Curricular approach requires transaction of relevant topics through plug points to be identified in subject wise syllabi across the curriculum. In the co-curricular area, besides students counselling, some activities mostly affecting behaviour pattern may be carried out to imbibe in the students the expected competencies. It is up to the teachers to select the activities they consider suitable. Some activities may be introduced for creating a positive environment. It is felt that increasing the number of co-educational schools may be helpful in this respect. Full use should be made of the facilities of school complex when developed. The SCERT, West Bengal may prepare guide-book and conduct suitable orientation programmes for the teachers.

Some co-curricular activities are suggested below:- Group discussion supplemented by interaction with teachers, story telling, debate, extempore speech, role play, poster and essay competition, case study, survey, quiz contests, value classification, publication of wall magazines etc. Topics for these activities should be carefully selected so that they are relevant and interesting.

VOCATIONAL EDUCATION

The approach paper :

The vocational stream was introduced at the Higher Secondary level following the recommendations of the Education Commission chaired by Dr. D. S. Kothari. But inspite of sustained effort at the national and state levels, vocational education has failed to generate necessary response and students' enrolment has remained far behind the target. The Kothari Commission desired that 50% of the students going for higher secondary education should be diverted to the vocational stream. Subsequently, the national target was reset at 25% to be achieved by the year 2000. However, according to official reports, the present figure is only 4.8% at the national level. Although a few states have much better records than the national average, the picture in West Bengal is extremely gloomy, the enrolment figure remaining below 1%.

The Era of Jobless Growth

Socio-economic conditions and technological developments coupled with the forces of liberalisation, privatisation and globalisation have created new problems in the field of employment. In the present era of jobless growth, the general courses of education have become largely irrelevant and are alleged to produce unemployables. The Committee likes to point out that the roots of unemployment lie in the economic system, not in the academic field. All over the world thousands of gainfully employed people, obviously employable, are being thrown out of employment, not because of any decline in their capability, but because of economic trauma. The current emphasis on self-employment emanates from the organised sector's inability to absorb even qualified people. However, compulsion of situation has rendered these arguments empty polemic. The youth of the country will have to submit to the reality of declining job opportunities and the inevitability of seeking self-employment for what it is worth, and the education system will have to be more and more market – friendly, whatever may be its social fall-out.

As reported by the Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) Bhopal, the MHRD got evaluation of the VEP done through several reputed agencies. Their studies have identified the major deficiencies of the programme and the factors responsible for its slow progress. Most of these findings are valid in the case of not only the poor performers like W.B. but also the more successful states. The Committee presents below the more relevant points of these reports that, in a way, would indicate the prerequisites for proper implementation of the programme.

Weaknesses: -

I. Psychological preference for white-collar jobs through academic courses. According to the National Framework (2000) "the perceived inferior status of vocational education is a global concern".
II. Non-availability of instructional materials for majority of courses.
III. Insufficient tools and equipments in schools and no provision for maintenance grant.
IV. Poor practical training.
V. Selection of courses and institutions without proper vocational survey.
VI. No provision for vertical mobility of students in their area of specialisation.
VII. Poor implementation of Apprenticeship Act.
VIII. No flexibility in duration of courses, curriculum design and offering.
IX. On the job training is not provided in majority of the situations.
X. Non-availability of states share in funding VEP in majority of the States.
XI. Low priority given to vocational education by the states in comparison with the academic programme.
XII. Dearth of full-time qualified and trained vocational teachers.
XIII. Insufficient infrastructural facilities in school imparting vocational education.

Courses: -

As already mentioned one of the main causes of poor progress of VEP is arbitrary selection of courses without proper assessment of local need. In order to impart viable education, the job potentials in different sectors of the economy must be ascertained through systematic survey, preferably at the district level. Such surveys may be

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conducted by the academic authority in charge of vocational education in collaboration with the Zilla Parishads and DIETs. Adopting courses without need-assessment would mean repeating the same mistake. Even after launching need – based programmes, it will be imperative to carry on continual research to keep track of changing market demand.

Forestalling Educational Caste System

The Committee has taken note of the apprehension expressed by some thinkers that job –oriented courses would be the educational equivalent of the caste system. Training for a particular job, they fear, will compel a young student to be stuck with it for life. They also hint at the extent of frustration that would befall the students when they find that the jobs they are trained for are not there. These fears, the Committee admits, are too real to be wished away. In order to partly mitigate possible mismatch between skill acquired and job requirements, the Committee suggests two measures:

a) **Multi-course training** - Many of the school-level vocational courses, if properly programmed, can be completed within one year time or even less. It is, therefore, quite possible for individual students to learn two trades – one in class XI and another in class XII. The same student may also go in for even more and varied courses in the opens system. With some pre-vocational background, such a vocational career would widen employability at least to some extent.

b) **Generic skills** – In the age of technology – specific manpower need, considerable number of employers search for not trained but trainable persons. They look for some basic vocational skills so that after recruitment they can arrange necessary training to fit in with their own requirement. To cater to this category of establishments, the PSSCIVE has developed several generic-skill programmes.

Institutional Arrangement

Two special features of vocational education have to be taken into consideration while making programmes. First, their varying nature in respect of duration and content. Vocational courses commanding similar market value do not necessarily require the same length of time to cover. The Committee recalls Kothari Commission's wise counsel that the duration of the vocational stream would be one to three years

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depending on the nature of the particular course. Moreover, ,the theory-practice weightage need not be equal for all courses.

The second notable feature of vocational programmes is instability of their relevance. Times are changing, and changing very fast indeed. In this age of discontinuity (Peter Drucker), even popular job-oriented trades may lose their market-relevance in course of a few years. A new more useful course may come up. This warrants the planners of VEP to be highly sensitive to market trends, and also pro-active. They will be required to feel the pulse of the job-market and take timely measures to phase out the dying trade and launch the upcoming one which is a though task.

This kind of dynamic management, the Committee appreciates, is not possible for the WBCHSE with its straitjacket regulations and preoccupation with the general stream. Successful implementation of VEP essentially requires the setting up of a separate agency with the exclusive responsibility of managing VEP.

Vertical Mobility

Lack of scope for vertical mobility is often cited as a major factor responsible for unsatisfactory progress of VEPs. The Committee recalls that the Parliament's resolution adopting the Education Policy (1968) accepted the 'effectively terminal situation, need for the right kind of vertical movement cannot be ignored because in the absence of such opportunities brighter students will have no incentive to join the stream. But the Committee asserts, entry of the vocational pass-outs in collegiate education must strictly be in corresponding vocational line, and not in general degree courses as is seen in some states. Return of vocational pass-outs to general stream proves the failure of VEPs to make people employable and frustrates the very purpose of vocationalisation. Vocational training of different kinds can be highly useful for the large number of school dropouts having different levels of general educational background. These people require a highly flexible system of education. There should be no rigid requirements about entry qualifications or age-limit. The sessions, the class hours, duration of the courses etc. should all be determined keeping in view the

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Vertical Mobility

Lack of scope for vertical mobility is often cited as a major factor responsible for unsatisfactory progress of VEPs. The Committee recalls that the Parliament's resolution adopting the Education Policy (1968) accepted the effectively terminal situation, need for the right kind of vertical movement cannot be ignored because in the absence of such opportunities brighter students will have no incentive to join the stream. But the Committee asserts, entry of the vocational pass-outs in collegiate education must strictly be in corresponding vocational line, and not in general degree courses as it seen in some states. Return of vocational pass-outs to general stream proves the failure of VEPs to make people employable and frustrates the very purpose of [illegible]. Vocational training of different kinds can be highly useful for the large number of school dropouts having different levels of general educational background. These people require a highly flexible system of education. There should be no rigid requirements about entry qualifications or age-limit. The sessions, the class hours, duration of the courses etc. should all be determined keeping in view the

learners' convenience. These requirements can be met only by strengthening the non-formal sector specially the Rabindra Mukta Vidyalaya.

Views from the workshop

On the basis of the facts and views presented above the participants in the workshop gave their considered opinion. Drawing from their wisdom, the Committee has come to the following decisions.

Regarding the 'Era of Jobless growth' the workshop was in agreement with the recommendations of the Education Committee and findings of Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal. But the workshop identified a few more areas of weakness, which are as follows:

i. The inherent defects / deficiencies of the existing practical examination system (the external component is practically nil). This erodes the value of the courses in the eye of the employers.
ii. Lack of proper motivation among students, teachers and guardians.
iii. Absence of career-counselling and guidance in the existing system.
iv. Absence of linkage between primary, secondary and higher secondary stages.
v. Lack of respect for manual work in the society.
vi. Lack of proper planning, monitoring and support from the authorities.
vii. Failure to update courses.

The workshop has felt that there should be a decentralised system of practical examinations.

Courses

The workshop has accepted the broad recommendations of the Committee regarding identification of vocational courses after assessing the local needs. The workshop has laboured and exchanged views among its members to find out some very important areas of vocational education which may be considered by the syllabus makers in future. In addition to the recommendations of the committee regarding the courses following VEPs may be incorporated:

i. Rearing and treatment of animals.

ii. Preservation of fruits and vegetables.

a) Mango – Malda, Murshidabad.

b) Pineapples, Oranges – North Bengal.

c) Tomato – Purulia.

d) Several common fruits in 24 Parganas (South)

iii. Decorative brass articles. (Murshidabad).

iv. a) Repairing and maintenance of motorboats (Sunderban).

b) Road repairing courses.

v. Downstream industries (Haldia).

vi. Nursing

vii. Cashew nut related industries (Medinupur)

viii. Bio-fertilisers

ix. Maintenance and repair of agricultural equipments

x. Coke manufacture (Bankura, Burdwan)

xi. Repairing of domestic appliances.

xii. Masonry

xiii. Maintenance of equipments necessary for harnessing non-conventional sources of energy.

xiv. Interior Decoration.

The infrastructure for technical education available in 12 government schools should be fully utilised.

Institutional Arrangement

The workshop has pointed out the pitiable picture of utter frustration and failure in the making of courses and running of vocational institutions in the existing order. At present the entire attention of the education department is given to general education and the entire energy is spent for its development and well being, neglecting the vocational stream mercilessly. Therefore, the workshop thinks that nothing could be achieved by lip service to the cause of vocational education unless these are backed by reasonable activities and programmes. The workshop is convinced that vocational education should be relieved from the straitjacket of existing Council and Directorate.

A separate Board / Council with adequate power and responsibility and a separate Vocational Directorate should be set up to plan, conduct and administer Vocational Education. Therefore, the workshop further thinks that each school having both vocational and general streams should be given need-based support to both the sectors. So that the vocational students should never have the occasion to suffer from inferiority complex and feeling of injustice. These schools should have separate workshops, separate seating arrangements for teachers / instructors and other employees. In such schools a senior teacher should be given full responsibility and commensurate authority to look after and administer the vocational programmes.

The workshop further feels the necessity of raising such schools solely for the purpose of raising the level of skill of the students. Creation of a Board alone may not solve all the problems of day-to-day administration. Therefore, a lucid, simple system of interactive working relation between all the agencies should be evolved.

Vertical Mobility

The workshop is of the opinion that absence of vertical mobility is one of the main reasons for the failure of VEP in our country. At the same time the group is of the opinion that there are certain courses which are terminal in nature and for them the prospect of vertical mobility is almost nil. For other areas, vertical nobilities should move onwards to the university level through the middle course of colleges & polytechnics. For such courses the state should have a separate vocational university. Number of polytechnics should also be increased with special emphasis on the requirements of agro-based industries, which unfortunately we do not have in our state. It has to be remembered that India is primarily an agricultural country with its teeming millions living in the villages and depending on agriculture for their livelihood. We should further give close attention to the possibility of building up effective relation with I.T.Is.

The workshop further considers that such students should be given adequate opportunities for self-employment by suitable legislations such as Apprenticeship Act, financial assistance from banks, tie-ups with important institutions and Government

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The workshop further considers that such students should be given adequate opportunities for self-employment by suitable legislations such as Apprenticeship Act, financial assistance from banks, tie-ups with important institutions and Government

organisations. The Government may further consider whether proper marketing facilities could be given to the products prepared by the vocational institutions and the students.

SCIENCE TEACHING AT THE SCHOOL LEVEL

The approach paper:

Teaching-learning of science in the schools is conducted with a number of aims, a few of which are:

a) To provide a knowledge base of concepts and principles of science for better understanding of the environment, both physical and social, in order to prepare the student as a responsible citizen.

b) To equip children with certain skills during teaching-learning both in the class room and outside eg. skills of handling apparatus and instruments, making improvised apparatus, making minor repairs, drawing, problem-solving, observation and communication.

c) To develop scientific attitude in the students during teaching-learning of science, eg. freedom from dogma and superstitions, critical observation and thoughts, faith in the method / process of science, respect for other points of view, tolerance, creativity, open-mindedness, spirit of inquiry, etc.

Science is based on observed or observable facts of nature. Science aims at explication of observable phenomena. It also aims at exploring the possibility of relevant applications of scientific ideas. Scientific experiments are usually done to verify a hypothesis, to gather data for establishing a theory, or to demonstrate a principle. Many scientific experiments are done in the laboratory. Some of those hands-on-experiments can also be done at home for later demonstration in school or in a Science Fair.

Teaching of science cannot be based merely on statement of certain facts of nature or of some laws and hypotheses. Classroom teaching alone cannot motivate the students to learning science. For teaching Physical and Life Sciences it is necessary to supplement class room teaching with direct laboratory or workshop experience.

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Science is based on observed or observable facts of nature. Science aims at explanation of observable phenomena. It also aims at exploring the possibility of relevant applications of scientific ideas. Scientific experiments are usually done to verify a hypothesis, to gather data for establishing a theory, or to demonstrate a principle. Many scientific experiments are done in the laboratory. Some of these hands-on-experiments can also be done at home for later demonstration in school or in a Science Fair.

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It sounds quite difficult to have a laboratory for the students of lower classes from standard five. The number of students in a class is normally very large and the

laboratory set up may be expensive. However, if a room of the normal classroom size is available, a Workshop can be started with almost no cost. It should be kept in mind that the intention is to convince the students about the fact that what we are telling them in the classroom can really be put into practice. For explanation of basic physical laws many of the small inexpensive household gadgets can be used. This will depend entirely on the choice or planning of the teachers. Many throwaway materials can be collected from the households of students. Some of them may be purchased at very low cost. The teachers can use them for demonstration in the classroom or they can be given to the students for some demonstrative experiments. A school workshop can keep a set of mechanical tools like hammer, pliers, wrenches, saws etc. The materials that can be collected fall into groups like consumables, non-consumables and recyclable materials. Consumable materials include paper tissue, clips, straw, beaker or glass jars, rubber bands, aluminium foils, plastic bags, plastic or Styrofoam teacups etc. Non-consumable materials may include discarded table clocks (mechanical), wrist watches, old grinders, old dynamo used in cars, scissors and various hand tools, meter scale, syringes, eye droppers etc. Among the recyclable materials one may look for plastic milk bags, egg container, cartons for food, jars with lid etc. For life science experiments non-consumable materials are freely available in most areas in the village. With some effort the city schools can also collect plants or living bodies. This is, of course a set of examples and not an exhaustive list of materials. The following is an example of how simple materials of everyday use can be utilised to perform hands-on science experiments.

Fabrication of an Electroscope: A device that is used to detect static electricity is an electroscope. It is not difficult to make.

Materials : Glass jar, cardboard cover or lid, large nail, two pieces of thin metal foil.

The process:

1) Cut the cardboard a little bigger than the top of the jar.
2) Stick the nail through the middle of the cardboard lid.

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1. Cut the cardboard a little bigger than the top of the jar.
2. Stick the nail through the middle of the cardboard lid.

3) Attach two pieces of thin (thickness) aluminium foil to the end of the nail. You might try some thin plastic strips or even thin paper.
4) Put the lid on the jar.
5) When you put a charged object close to the nail-head, the foil strips should separate.

Question : Why do the foil strips separate?

Answer: Each strip gathers similar electrical charge through the nail, and like charges repel.

A big problem with static electricity is that often it does not work if the weather is damp. It works the best on a dry day like in the winter.

The aluminium foil must be very thin and lightweight to work. Or a lot of static electricity should be available. If it doesn't work, check out how you are making your static electricity. You can rub a glass or plastic or with some wool or fur. One good way to make static electricity is to comb your hair. Before you use your electroscope, check to see if your source static electricity is good. You may pick up some small pieces of tissue paper. If that works, then your electroscope should work too.
It may be noted that the experiment may not produce similar results at home or at the School. One can show pictures and the reason may be found out i.e. humidity may be too high on one occasion.

Once a few elementary items are collected, the teachers can design or devise various experiments on their own. There may be four sources for generation of ideas. First, one can get such ideas from textbooks. A second resource to develop hands on activities is other teachers from neighbouring schools. A third means of developing laboratory activities is the students. A fourth resource to develop students' hands – on training is following some schools or organisations that are already using hands-on experiments for similar purposes. The type of workshop and the demonstrative experiments may differ from school to school. A number of Non-Government

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Organisations are working on this kind of science experiments for quite some time now. The school teachers may take help from such organisations if there is any such possibility in the neighbourhood.

The success of any such programme depends on the whole-hearted efforts on the part of teachers. If the teachers are enthusiastic, students will take interest in the programme.

Although most of the materials should be collected by teachers and students free of cost, the school may purchase some hand-tools costing around Rs.500/= if fund permits.

Another problem is the question of language. If we want to give proper science education we must emphasise on the use of the mother tongue. We need good books and reading materials in Bengali and the other regional languages which are used as media of instruction. SCERT should get seriously involved in the preparation of these books, which should be both informative and attractive. The emphasis on English might benefit a few, but will deprive many of the chance of higher education. In the highly developed countries like Germany or Japan, students are very poor in English. But they are the best in Science. This is clear from the performance of students from different places in other countries. The former students of these counties have done much better than former Indian students. Although some Indians have done well, the relative rate of success is much less. American Universities now prefer Chinese students to the Indians in spite of the formers relatively poor English. Some schools do well in English medium. We need not disturb them. But the approach of the Government should be development of science education in Bengali and regional languages.

In the light of the above discussion, participants may kindly examine the desirability and also the feasibility of setting up a science-corner in every school for better achieving the objectives of teaching-learning science subjects.

While reiterating the objectives of science education, we would like to quote from the NCERT report (November, 2000) [pg. 58-59, para 2.87.] that "The learners have to

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understand how basic scientific principles are applied in finding solutions to problems in the field of agriculture, weather, energy, health and nutrition, industry, defence, information processing and other areas of human concern".

One of the main factors responsible for our failure in achieving the desired objectives of science education is reluctance and inability too on our part to adopt and follow a proper method of teaching-learning of science. Barring a few exceptions we are still going on following the age-old lecture method with the 'chalk and talk' technique. It is an admitted truth that merely through this method it is hardly possible to impart proper science education.

Hands-on science experiments should be introduced in all secondary schools from classes V to VIII for effective science teaching and for exposures of the students to the creative power, novelty and beauty of science.

The schools may prefer to have 'science corner' for implementation of the programme. A set of small tools like scissors, hammer, pliers, etc. may be procured and collected in a box. Small funds required for the purpose may be collected from the students or from local organisations. However, even if a school cannot collect this fund or arrange a space there should be no problem to initiate the programme.

The success of the entire programme will depend upon the motivation of teachers and their willingness to take it as a part of their workload. Orientation courses for teachers have to be organised for this purpose in order to set the proper tone for such programme.

The main aim of this work should be setting up science-based experiments, demonstration of scientific phenomena or fabrication of small apparatus by using low-cost throwaway materials. Such materials, often disposed from households, shops, small factories, carpenters, may be collected as per need and plan of the experiment. Students and teachers may collect such materials almost free of cost. An illustrative list of such materials is given below:

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A) Equipments: -

1) Scissors – an ordinary one for cutting metal sheets.

2) Pliers.

3) Hammer (with provision for removing nails).

4) Saws (one for cutting wood and another for metal).

5) Files (flat and round-shaped).

B) Throwaway materials from households: -

6) Containers of different sizes (discarded containers of mosquito repellents, coconut oils, etc.).

7) PET bottles (when cut into pieces the lower portion may serve the purpose of a beaker and the upper conical portion may serve as a funnel).

8) Discarded rubber tubes of the LPG burner, nails and other metal strips.

9) Discarded utensils from the kitchen (spoons, bowls, etc.).

10) Discarded glass bottles, cup-plates, etc.

11) Cork (assorted).

C) From carpenter's shop:-

12) Discarded pieces of woods of different shapes – wood cutting and finishing equipments, may be borrowed from these shops.

D) From tailors shop: -

13) Discarded spindles (both metallic and wooden – may be used as pulleys).

14) Pieces of different cloth materials (silk, flannel, etc.).

The syllabus of the teacher's training courses should be revised in order to accommodate the idea of hands-on science experiments in every school. For effective functioning of the programme the school complexes should play a key role. They should take charge of monitoring and helping different schools. The common experience is that there is dearth of quality text-books in vernacular. The books should include activity-based materials and put emphasis on application of scientific ideas rather than presenting descriptive details for memorisation by the students.

Vacation camps should be organised by schools. Refresher courses for teachers may be organised during the vacation. Oral examination at school for all these classes should

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be replaced by a system of evaluation based on hands-on science activity to test the knowledge, understanding and skill acquired by the students from these experiments.

The success of the entire programme will depend on teacher's commitment in developing which teachers' organisations can provide leadership. Accredited voluntary organisations may also be involved in the programme.

Steps to be taken by WBBSE: -

West Bengal Board of Secondary Education may be requested to adopt necessary measures for implementation of the programme in all secondary schools in the state. The Board will constitute a cell with the help of syllabus sub-committees for the subjects like Physical science, Life science and Mathematics. The cell will consist of 6 to 9 Master Resource Persons (M.R.P.) for each discipline. They will go through the syllabus and text books and identify, to start with, 30 – 40 experiments / activities for each class from class V to class VIII. The Master Resource Persons should have wide experience in conducting experiments, activities with their own hands. They may be chosen in consultation with different teachers' organisations, subject teachers' associations like A.I.S.T.A., I.A.P.T. (Physics), I.A.C.T. (Chemistry), I.A.M.T. (Mathematics), etc. and voluntary organisations engaged in science movements. Retired teachers may also be included in the list of M.R.Ps. The M.R.Ps will prepare a teacher's manual which will be the handbook of experiments / activities. The manual should have questions based on observations and give model answers to these questions. The teachers and students may raise new questions. The manuals should be sent by the Board to all the schools on cost basis. The school will try to implement the suggestions and imitate experiments / activities as far as practicable. However, they need not confine themselves to the experiments suggested by the M.R.Ps in the manual. They may also improvise experiments / activities on their own.

The M.R.Ps will identify 15 – 20 Key Resource Persons (K. R. P.) for each district from similar group of persons as mentioned above. They will be well-versed in the art of conducting the experiments / activities enlisted by the M.R.Ps. W.B.B.S.E. and

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S.C.E.R.T. may undertake training programmes of all teachers in the district in a phased manner with the help of the K.R.Ps

Till the school complexes be operative a strong monitoring team should be set up with M.R.Ps / K.R.Ps who will visit the schools and oversee the implementation process. For this purpose the A.D.I. at the sub-divisional level may be helpful. When the school complex will be framed, regular meetings should be organised for exchange of view of teachers of different schools. Schools should encourage formation of science-clubs and eco-clubs by students under teacher's guidance. The schools may also organise science exhibitions.

At the end of every chapter in the textbooks list of activities and easily available materials to be used may be given. A system of internal evaluation from classes VI to VIII may be initiated to assess the performances of students in science activities. The Board may prescribe the number of periods per week to be allotted for science activities.

S.C.E.R.T. may undertake training programmes of all teachers in the district in a phased manner with the help of the KRPs.

Till the school complexes be operative a strong monitoring team should be set up with M.R.Ps/ K.R.Ps who will visit the schools and oversee the implementation process. For this purpose the A.D.I. at the sub divisional level may be helpful. When the school complex will be framed, regular meetings should be organised for exchange of view of teachers of different schools. Schools should encourage formation of science-clubs and eco-clubs by students under teacher's guidance. The schools may also organise science exhibitions.

At the end of every chapter in the textbooks list of activities and easily available materials to be used may be given. A system of internal evaluation from classes VI to VIII may be initiated to assess the performances of students in science activities. The Board may prescribe the number of periods per week to be allotted for science activities.

School Session and related matters

The approach paper: -

There was a long-felt need in West Bengal to change the school session from January – December mainly for bringing uniformity with national pattern. In 1986, the West Bengal Board of Secondary Education took the initiative and prepared a specific proposal in this respect. The scheme was discussed threadbare by the teachers and experts in a number of meetings and one important workshop organised by the WBBSE. The different aspects of the matter were considered by all sections of people. The proposal was accepted on the strength of total unanimity of opinions that is rarely seen. It was estimated that the new session would increase the number of teaching days for all the classes except class X. This problem was taken care of by adjusting the syllabi prescribed for classes IX and X in such a way that the total number of teaching days available for these two classes would be sufficient to do justice to them.

However, the present session is being considered inconvenient because the teachers have to correct answer scripts of school examination and public examinations almost during the same period of time.

The Committee therefore has proposed the following pattern of school session:-
Session may commence on 1st June and end on 31st May. Annual examination will be completed by the 30th of April and summer vacation will commence from the 1st of May. Teachers will evaluate answer scripts during vacation and prepare results by the 3rd week of May. About 7 days before the reopening of the school, results and booklists will be given to the students. The date of its programme will be announced previously in the school calendar. This will obviously solve the teachers' problem of having to see scripts of school examination and Board examination at the same time.

This programme will marginally increase working days for class X and taking classes IX & X together, the number of teaching days would be sufficient. The Committee also requests the WBBSE to consider whether the practice of holding a qualifying test for class X students can be done away with. This will ensure about 6 weeks of additional

teaching. The logic is that students who are found fit to be promoted to class X in the month of May cannot become unfit for the final examination to be held in March. However, for their exercise, the schools should resort to continuous unit tests. The same pattern may also be advised for the H. S. level.

Considering the challenges of changed situation, the teaching community, the Committee hopes, will agree to correct answer scripts during summer vacation.

The Committee has observed that the target number of teaching days is 200 to 220 in other states. The Committee believes that this is attainable in West Bengal also, provided concerted effort is made by all concerned. In its interaction with people from different walks of life, including teachers at all levels, the Committee has sensed that the demand of the new situation is in their realisation. Times have changed, quality has become the central concern in education, and society's expectations have reached an unprecedented level. We shall be betraying our coming generations if we stick to our old ideas and habits regarding vacations and holidays.

In anticipation of a broad consensus in the society, the Committee ventures to propose the following for the secondary and higher secondary stages:

a) Christmas holidays should be done away with. All the days in the last week of December should be normal working days except the 25th, which may be observed as a holiday.

b) The part of Puja Vacation after Lakshmi Puja upto Shyama Puja should be earmarked for activity-based learning. Programmes during these two weeks may include, among others the following activities:
   i. Social service and camping.
   ii. Cultural activities in areas like music, dance, drama.
   iii. Contests in debating, elocution, essay-writing.
   iv. Value-focussed awareness programmes including lectures on different topics, story-telling.
   v. Sessions in English conversation.

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   iv. Value-focussed awareness programmes including lectures on different topics, story-telling.
   v. Sessions in English conversation.

The Committee is convinced that such programmes are very helpful in nurturing talents, inspiring creative ideas, sensitising the pupils to the society's needs and problems and offering scope for 'learning to live together'. These also create an atmosphere not only of joyful learning, but joyful teaching as well. It is a common experience that when a school celebrates any big occasion like prize-giving, teachers and non-teaching employees plunge into the task of making the programme all success. They often spend long hours preparing the students for the events mixing with them. This definitely enhances their commitment to the institution. Even former teachers come forward to lend a helping hand in conducting music or drama out of sheer love for the school and the students.

The school cluster should be prepared to play a pivotal role in planning, organising and financing these activities. Efforts should be made to keep the expenditure at a modest level, and no burden should be imposed on parents who are unable to pay. Necessary funds for these programmes may be collected (i) by the cluster from grants form the government, panchayats, the community and the meaningful N. G. O.s (ii) by school managing committee from donations by beneficiaries, established alumni, local people and N.G.O.s.

Deliberations in the workshop following the above presentation revealed: Considerable difference of opinion on the issue of school session a large number of participants favouring a reversion to the erstwhile January – December pattern. There was a variety of other views also. Of course, the Committee did not have any intention to reopen this issue. These deficiencies of the January – December session were recognised by all concerned when the change was effected in 1988. Loss of teaching days and slackness, particularly during the most convenient part of the year – from end of September to end of January – was the common experience. None of the other suggestions seems to address the problems of inadequate teaching days and marking examination scripts during the same period of time.

The Committee believes that a substantial increase in the number of teaching days is possible only if the number of holidays is brought down from 80 to 60/65 days. It is

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heartening to note that the representatives of teachers' organisations have expressed their readiness to accept such a move. However, they want the authorities to prescribe the number of holidays leaving the distribution over the session to the managing committee. This is not unreasonable. But the Committee reiterates its original recommendation about dropping the long Christmas holidays. There is no point in sticking to the colonial hangover and waste the days most congenial for fruitful labour.

The Committee is not sure whether the teaching community will readily agree to undertake the evaluation of school examination papers during the summer vacation. We all feel the need for reviewing and recasting various components of school education system in tune with the need of the hour. We talk of revising and updating curricula, syllabi, teaching method, evaluation system etc. for this purpose. Is it not logical, then, to review the purpose of vacations in the context of the changed situation? Can it be the purpose of the summer vacation to relieve the teachers of all kinds of academic work necessary in the interest of the education system?

A few participants raised the demand for earned leave in case holidays are curtailed. The Committee does not find this tenable. The issue of earned leave is related to vacations, not holidays.

Teachers in general are opposed to the idea of dropping the selection tests held by the schools for sending up candidates for the Secondary (class X) and H.S.(class XII) examinations. Their main argument is that the selection tests give the students exposure to questions on the total curriculum set by others. The Committee feels examinations arranged for this purpose do not justify disqualifying the unsuccessful students from appearing at the final examination. Tests arranged only for making the students familiar with type of question can be deferred and held about a month before the final examination when the students' preparation would be more complete. The intervening time can be utilised for revision lessons, tutorials and exercises which would be great help to the students.

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Appendices:

List of Participants

1.	Prof. Ranju Gopal Mukherjee	- Chairman, School Education Committee
2.	Prof. Dibyendu Hota	- President,. West Bengal Board of Secondary Education.
3.	Dr. Abdus Sattar	- President, West Bengal Board of Madrasah Education.
4.	Prof. Jyotirmoy Mukhopadhyay	- President, West Bengal Council of Higher Secondary Education.
5.	Dr. Rathindranath De	- Member-Secretary, School Education Committee & Director of State Council of Educational Research and Training (West Bengal).
6.	Prof. Md. Refatullah	- Member, School Education Committee & Secretary West Bengal Board of Madrasah Education.
7.	Prof. Sudin Chattopadhyay	- Member, School Education Committee
8.	Sri Sudhin Paul	- Member, School Education Committee
9.	Prof. P. N. Ghosh	- Member, School Education Committee
10.	Sri Dhirendranath Baskey	- Member, School Education Committee
11.	Dr. Gopa Dutta	- Member, School Education Committee & Principal, Lady Brabourne College.
12.	Sri Lakshmi Narayan Ray	- Member, School Education Committee
13.	Prof. Bhabesh Moitra	- Ex-President, West Bengal Board of Primary Education.
14.	Dr. Anjali Ray	- Dept. of Applied Psychology, Calcutta University.
15.	Sri Rupak Hom Roy	- Head Master, Ballygunge Govt. High School
16.	Sri Prabir Roy Choudhury	- President, Bengal Library Association
17.	Prof. Jyotirbhusan Dutta	- Paschim Banga Rajya Shishu Shiksha Mission
18.	Sri Haraprasad Samaddar	- Former President, West Bengal Board of Secondary Education
19.	Dr. Pallav Bhattacharya	- W.B. State Aids Prevention & Control Society
20.	Sri Sisir Ranjan Chakraborty	- Retired Head Master
21.	Dr. Arati Basu Sen Gupta	- Consultant Gynaecologist & Obstetrician
22.	Sri Prasanta Dhar	- Member, Comparability Committee
23.	Dr. Dilip Kr. Chakraborty	- Principal, David Hare Training College
24.	Dr. Anjan Bera	- Dept. of Journalism and Mass Communication., Calcutta University.

25.	Dr. Prasanta Kr. Bhowmick	- Director, Rabindra Mukta Vidyalaya
26.	Prof. Basudeb Barman	- Chairman, Tripura Education Commission
27.	Dr. Sujit Kumar Mukherjee	- Consultant, West Bengal Board of Primary Education.
28.	Sri Subir Lahiri	- Head Master, B.T. Sir Rajendra High School.
29.	Dr. Satyajit Ash	- Mon Foundation.
30.	Sri Shyamal Kr. Mitra	- Special Officer (Academic), West Bengal Board of Secondary Education.
31.	Prof. Pranab Kr. Chakraborty	- Dept. of Education, Calcutta University.
32.	Sri Harendranath Mondal	- Head Master, Shyambazar A. V. School
33.	Sri Shyamal Jana	- West Bengal State Aids Prevention & Control Society.
34.	Sri Sandip Ukil	- West Bengal State Aids Prevention & Control Society.
35.	S. Suresh Kumar	- Joint Secretary, Health & Family Welfare.
36.	Sri Amiya Basu	- Bengal Teachers' & Employees' Association
37.	Sri Jyotilal Banerjee	- Bengal Teachers' & Employees' Association
38.	Smt. Chandra Mukhopadhyay	- Mon Foundation
39.	Sri Mohit Ranadip	- Mon Foundation
40.	Smt. Sunita Singh	- Mon Foundation
41.	Sri Arun Kr. Das	- Sara Bangla Shikshak-o- Shiskhakarmi Samity
42.	Sri Tarit Brahmachari	- Sara Bangla Shikshak-o- Shiskhakarmi Samity
43.	Sri Ambuj Das	- West Bengal Primary Teachers' Association
44.	Sri Tapas Kumar Bandyopadhyay	- Secondary Teachers' & Employees' Association
45.	Sri Ratan Laskar	- Secondary Teachers' & Employees' Association
46.	Sri Chandranath Bandyopadhyay	- Paschim Banga Vigyan Mancha, State Committee
47.	Sri A. K. Bhowmick	- Paschim Banga Vigyan Mancha, Bankura
48.	Sri Ashok Kumar Maiti	- West Bengal Headmasters' Association
49.	Sri Mahabir Mukherjee	- West Bengal Headmasters' Association
50.	Sri Paresh Nath Das	- West Bengal Teachers' Association
51.	Sri Naba Kumar Karmakar	- West Bengal Teachers' Association
52.	Sri Bishnu Roy	- West Bengal Govt. School Teachers' Association
53.	Sri Swapan Chakraborty	- West Bengal Govt. School Teachers' Association, (Hare School)

54.	Sri Raindranath Misra	- Bengal Primary Teachers' Association
55.	Smt. Nipasri Mukherje	- Bengal Primary Teachers' Association
56.	Smt. Swapna Banerjee	- Paschim Banga Vidyalaya Paridarshak Samity
57.	Sri Alok Kumar Joardar	- Paschim Banga Vidyalaya Paridarshak Samity
58.	Sri Sundar Bandopadhyay	- Paschim Banga Vidyalaya Paridarshak Samity
59.	Sri Achintya Kr. Mukherjee	- Paschim Banga Vidyalaya Paridarshak Samity
60.	Sri Tarun Kumar Maiti	- West Bengal Voluntary Health Association
61.	Sri Arup Sen Gupta	- Bangiya Shikshak Samity
62.	Sri Soumitra Lahiri	- Nominated by West Bengal Voluntary Health Association
63.	Sri Abhijit Bardhan	- Science Communicators' Forum
64.	Sri Samar Bagchi	- Ex-Director, Birla Industrial & Technological Museum.
65.	Dr. Satyendra Nath Giri	- President, All India Science Teachers' Association.
66.	Sri Amarendranath Das	- Vice President, All India Science Teachers' Association.
67.	Smt. Sikha Mukherjee	- Asst. Teacher, Chirantan Vidyapith for Girls' High School, All India Science Teachers' Association.
68.	Prof. Ishita Mukhopadhyay	- C.U. Women's Study and Research Centre.
69.	Sri S. N. Banerjee	- Ballygunge Govt. High School.
70.	Smt. Sipra Bhattacharyya	- All Bengal Teachers' Association
71.	Smt. Rita Sen	- All Bengal Teachers' Association
72.	Sri Amal Banerjee	- All Bengal Teachers' Association
73.	Sri Samar Chakraborty	- All Bengal Primary Teachers' Association
74.	Sri Nishikanta Das	- All Bengal Primary Teachers' Association
75.	Sri Subrata Chakraborty	- West Bengal Secondary Teachers' Association
76.	Sri Subir Kr. Sarkar	- West Bengal Secondary Teachers' Association
77.	Sri Dilip Kr. Sen Gupta	- Asst. Director of School Education (W.B.)
78.	Sri Bibhu Bhusan Talapatra	- Association of the Heads & Other Supervisory Staff of Govt. Schools in West Bengal.
79.	Sri Ajoy Kumar Bhatacharyya	- Association of the Heads & Other Supervisory Staff of Govt. Schools in West Bengal.
80.	Sri Sudip Narayan Goswami	- Sara Bangla Prathamik Shikshak Samity

81. Sri Bimal Chandra Bhattacharyya - Sara Bangla Prathamik Shikshak Samity

82. Dr. B. S. Joardar - Paschim Banga Vigyan Mancha

83. Sri Debabrata Majumdar - All India Science Teachers' Association.

84. Sri Saroj Barui - Prathamik Shikshak Sangha

85. Sri Chitta Ranjan Kuti - Prathamik Shikshak Sangha

Rapporteurs

1. Sri Hirak Kumar Barik - JRF (Grade – II), SCERT (W.B.)
2. Smt. Anasuya Raychoudhuri - JRF (Grade – II), SCERT (W.B.)
3. Sri Rupak Samanta - JRF (Grade – II), SCERT (W.B.)
4. Smt. Samapika Sen - JRF (Grade – II), SCERT (W.B.)
5. Smt. Simili Ghosh - JRF (Grade – II), SCERT (W.B.)
6. Smt. Binita Sen Gupta - JRF (Grade – II), SCERT (W.B.)
7. Smt. Dipannita Sanyal - Asstt. Teacher, Jodhpur Park Girls' High School.

SUPPLEMENTARY REPORT (PART – B)

Achievement survey on Language Learning:

Language Competencies of Children at the end of Class IV in Selected Schools of West Bengal

Introduction

The Committee in its main report, submitted to the Government on 31.12.2002, expressed concern over the students' unsatisfactory level of proficiency in languages, not only in English, but also in their mother tongue. Regarding English, the Committee recalled Prof. Pabitra Sarkar Committee's recommendation for review of the results of the present system of teaching this compulsory second language from the second part of class II which is due next year.

When the Government extended the Committee's tenure requesting it to undertake some incidental work, the Committee felt it worthwhile to make a limited study of language competency of students after 4 years of schooling.

Objectives

To study the pupils' proficiency in mother tongue (Bengali) after 4 years of primary education in terms of competencies as enumerated by the West Bengal Board of Primary Education.

To study their proficiency in compulsory second language (English) at the primary level after 2 ½ years of formal studies in the language in terms of learning outcome prescribed by the West Bengal Board of Primary Education.

To ascertain the gap between the levels of achievement in Bengali and English at the end of Class –IV.

To find out association, if any, between performance in these two subjects and (i) time devoted (ii) tutor-assistance (iii) liking for the subject.

SUPPLEMENTARY REPORT PART – II

Achievement survey on Language Learning

Language Competencies of Children at the end of Class IV in Selected Schools of West Bengal

Introduction

The Committee in its first report, submitted to the Government on 31.12.2002, expressed concern over the students' unsatisfactory level of proficiency in languages, not only in English but also in their mother tongue. Regarding English, the Committee reiterated [illegible] the earlier Committee's recommendation for review of the results of the present system of teaching the compulsory second language from the second part of class II [illegible] for analysis.

When the Government extended the Committee's tenure requesting it to undertake some [illegible] work, the Committee felt it worthwhile to make a limited study of language competency of students after 4 years of schooling.

Objectives

To study the pupils' proficiency in mother tongue (Bengali) after 4 years of primary education in terms of competencies as enumerated by the West Bengal Board of Primary Education.

To study their proficiency in compulsory second language (English) at the primary level after [illegible] years of formal studies in the language in terms of learning outcome prescribed by the West Bengal Board of Primary Education.

To ascertain the gap between the levels of achievement in Bengali and English at the end of Class IV.

To find the association, if any, between performance in these two subjects and (i) time devoted (ii) tutor assistance (iii) liking for the subject.

Methodology (including Statistical techniques)

Initially the general guidelines of the survey were formulated which included the tools of conducting the survey, the target population, the personnel to conduct it, the methods of assessing the scripts and analysing the resultant data.

The survey was conducted on pupils who had just finished four years of formal schooling and had started attending class V. The aim was to ascertain the competency achieved by them in two languages, namely, Bengali (first language) and English (second language).

For this purpose, 2 tests were designed for the two languages in conformity with the syllabus prescribed for class IV. The Bengali question paper included paragraph-writing, comprehension test and sentence-making. The English question paper sought to test students' familiarity with Bengali meanings of English words, their ability to write a paragraph and also their comprehension power.

A separate questionnaire was designed for the students in order to determine several relevant factors like their preference for different subjecrs, co-curricular interests; domestic environment related to study etc. 22 items were designed.

The survey was conducted in 36 schools spread over 8 districts of West Bengal and covered 1873 students (1118 boys and 755 girls). The districts and the number of schools covered in each of them were:

District	No. of schools
Kolkata	6
South 24 Parganas	4
Nadia	6
Hooghly	4
Howrah	2
Paschim Midnapore	9
Siliguri Education District (Darjeeling)	4
Burdwan	1
	36

Break up of these 36 schools:

1) Girls' Schools – 12
2) Boys' Schools – 17
3) Co-educational Schools – 7

The schools were selected on the basis of convenience and without bias, making it virtually random sample.

(A list of the schools covered and their number of students is given in the appendix).

The survey was conducted by some members including the Chairman and the Member-Secretary of the Committee, the Finance Officer and six Junior Research Fellows of SCERT (WB). The Committee acknowledges the cooperation received from the schools in this regard.

In order to conduct the survey, the individual schools, both rural and urban, were contacted and dates were fixed to suit their convenience. An effort was made to restrict the number of students in each school to 50, although there were some exceptions.

The students were first supplied with the questionnaire, which they filled up spontaneously with some help from the surveyors. The filled up questionnaires were collected. Next the answer sheets and question papers for Bengali/English were distributed. The answer sheets had space for students to provide the general information about themselves. The objective was to see whether they could perform this simple task without any error. The completed answer sheets and question papers were collected at the end of the allotted time.

For the purpose of checking the answer scripts of both the languages, a marking scheme was prepared. Each question was divided into a number of competencies and marks allotted accordingly. The competencies that were tested included understanding of instructions, correct spelling of words, neatness, writing of complete and correct sentences, use of proper punctuation marks, description of topic, power of expression, correct use of words etc. The names of the schools were coded and the marks obtained by individual students of each school tabulated and recorded.

The responses to the various items of the questionnaire were tallied for every participating student of all the schools. The frequency of the response to particular option was also tabulated.

The raw data were digitised using ***MS-EXCEL*** software. The finished data were statistically processed by an expert. The results were analysed and interpreted. The statistical package used was **S-PLUS**.

Part of the analysis is based on exploratory studies using relevant graphs and tables. In many of these cases the exploratory studies have been supported by appropriate statistical tests with regular significance levels to derive meaningful conclusions. The statistical tests used are chi-square tests for homogeneity, pair-wise comparison test for difference in means, z-test comparing the population means.

However, the committee is aware of the following limitations of the study:

a) The survey was conducted during the months of May-June, 2003 for which reason the study could not be carried out right at the end of Class IV in the primary schools. It had to be conducted on students who were just admitted to Class V in Secondary or Higher Secondary schools (with one or two exceptions). The students admitted to Class V in secondary schools had come from different primary schools through admission tests. Many low achievers at the end of Class IV might have been eliminated at this stage in many cases.

b) Completely objective responses to the various items of the pupils' questionnaire cannot be expected from students at this stage who were not prepared beforehand. Thus their instantaneous responses may be tinged with spontaneity rather than balanced consideration.

c) It is a limited study because the sample selected is very small in view of the vast relevant population.

The responses to the various items of the questionnaire were tabled for every participating pupil of all the schools. The frequency of the response to particular options was also obtained.

The raw data were tabulated using SPSS-[illegible] software. The [illegible] data were [illegible] processed by an expert. The results were analysed and interpreted. The statistical technique used was SPSS.

[illegible] the analysis is based on [illegible] studies using [illegible] the tables. In some of these cases the exploratory studies have been supported by appropriate statistical tests with requisite significance levels to derive meaningful conclusions. The statistical tests used are chi-square tests for homogeneity, pairwise comparison test for difference in means, [illegible] comparing the proportions etc.

However, the committee was aware of the following limitations of the study:

- The survey was conducted during the months of May-June, 2003 for which reason the study could not be carried out right at the end of Class IV in the primary [illegible]. It had to be conducted on students who were just admitted to Class V in Secondary or Higher Secondary schools (with one or two exceptions). The students admitted to Class V in secondary schools had come from different primary schools through admission tests. Many low achievers at the end of Class IV might have been eliminated in this course in many cases.

- Completely objective responses to the various items of the pupils' questionnaire cannot be expected from students of this stage. There is a fair possibility that in many of their questionnaire responses may be tinged with spontaneity rather than [illegible] consideration.

- It is a limited study because the sample selected is very small in view of the vast [illegible] population.

There was an institution in the sample where the Head Master humbly submitted that parents in their eagerness to send their boys to this school gave them preparation for no less than Standard VII while seeking admission to Class V. Performance of these students might have influenced the total result.

Analysis and Findings:

Some meaningful results along with their interpretation extracted from the tabulated data are presented in this section. The entire report in this section has been divided into three subsections with a view to studying a) the language competencies, b) the responses on relevant factors, like academic inclination, co-curricular activities etc. and c) the association between the factors and language performances. Most of the analyses are exploratory based on the appropriate visual and tabular presentation of the data, while some of them are based on statistical tests with regular significance levels. As has been mentioned earlier, there were limitations in the process and methods of collection of the data. Hence the data, being not large enough may not adequately represent the population, and thus limit the scope of extending the same conclusions for the actual population. But the patterns and relevant information extracted from the data will be of worth investigating further.

The Language Competencies:

<u>Results based on overall language performances of all students in the sample</u>:

In Figure 1(a) the plots as well as the tables below the plots show the distribution of scores in Bengali and English obtained by all 1871 students. Based on the individual scores of all students the histograms and boxplots have been constructed. The histograms show that modal class for scores is [0-20) for both the subjects, although the number of students is much higher for English 868 compared to Bengali 584 in this range. Only 4% (78) of the students scored above 80% in English while 11% (208) of the students scored above 80% in Bengali. The boxplot shows the median score for Bengali is 38 whereas the same for English is 24. Also from the boxplot as well as the values of the quartiles we see that 50% students scored between 14 and 68 in Bengali.

There was an institution in the sample where the Head Master humbly submitted that parents in their eagerness to send their boys to this school gave them preparation for no less than Standard VII while seeking admission to Class V. Performance of these students might have influenced the total result.

Analysis and Findings:

The important results along with their interpretation extracted from the tabulated data are presented in this section. The entire report in this section has been divided into three subsections with a view to studying a) the language competencies, b) the responses on relevant factors like academic inclination, co-curricular activities etc. and c) the association between the factors and language performances. Most of the analyses are exploratory based on the appropriate visual and tabular presentation of the data, while some of them are based on statistical tests with regular significance levels. As has been mentioned earlier, there were limitations in the process and methods of collection of the data. Hence the data, being not large enough may not adequately represent the population and thus limit the scope of extending the same conclusions for the actual population. But the patterns and relevant information extracted from the data will be of use to investigating further.

The Language Competencies:

Results based on overall language performances of all students in the sample:

In Figure 1(a) the plots as well as the tables below the plots show the distribution of scores in Bengali and English obtained by all 1677 students. Based on the individual scores of all students the histograms and boxplots have been constructed. The histograms show that modal class for scores is (0-20) for both the subjects, although the number of students is much higher for English 858 compared to Bengali 584 in this range. Only 4% (78) of the students scored above 80% in English while 11% (208) of the students scored above 80% in Bengali. The boxplot shows the median score for Bengali is 38 whereas the same for English is 24. Also from the boxplot as well as the values of the quartiles we see that 50% students scored between 14 and 65 in Bengali

25% of the students scored below 14 and 25% scored above 68. Same limits for English are 9 and 45 respectively.

A paired comparison test has been conducted to test for the average difference between the individual scores in Bengali and English. The null hypothesis of no difference has been rejected at $\alpha = .01$ (P-value=0), which indicates that on an average an individual student scored more in Bengali than English. However Figure 1(b) additionally indicates that except for very good students who obtained high scores (in the range 80-100) in both English and Bengali, the average difference between the individual score in Bengali and English increases proportionately with the score in these two subjects.

Results based on schoolwise overall language performances:

The average scores obtained by the students in each school have been calculated and scatter diagrams, histograms and boxplots for these school averages have been plotted in Figure 2(a) and 2(b). In the scatter plot (Figure 2(a)) each point labeled by the school code shows the schools' average score in Bengali and English. It identifies the schools having good or poor average score in these subjects. Figure 2(b) shows that average performance of the schools is better in Bengali than in English. The average score in Bengali in 50% of the schools is between 27.10 and 52.87. 25% of the schools had an average above 52.87 and 25% of the schools had an average below 27.10. The average score in English in 50% of the schools is between 12.09 and 40.65. 25% of the schools scored above 40.65 and 25% of the schools scored below 12.09. These averages are also tabulated in Table: 1.

Results based on specific areas of language competencies:

Figures 3(a) and 3(b) show the performance of all 1871 students in specific areas of competencies in Bengali and English. The competencies viz, understanding of instructions, spelling, and sentence construction in both Bengali and English have been considered in these plots. It can be seen from the two plots that the percent score in all three competencies is lower for English. The students are particularly poor in sentence

25% of the students scored below 14 and 25% scored above 68. Same limits for English are 9 and 43 respectively.

A paired comparison test has been conducted to test for the average difference between the individual scores in Bengali and English. The null hypothesis of no difference has been rejected at α = .01 (P-value=0), which indicates that on an average an individual student scored more in Bengali than English. However Figure 1(f) additionally indicates that except for very good students who obtained high scores (in the range 80-100) in both English and Bengali, the average difference between the individual score in Bengali and English increases proportionately with the score in these two subjects.

<u>Results based on schoolwise overall language performances:</u>

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construction in both languages, more so in English. In English, more than 25% students could not score anything (score is zero) in this competency area.

Responses on Relevant Factors/Choice Options:

Results based on observations from all students in the sample.

The barplots in Figure 4 and the tables underneath result in the following observations:

- Maximum number of students has opted for Bengali as their 'most liked' subject. The second subject in this category is Mathematics. The subject liked the least is History and Geography.

- Maximum number of students find Bengali as the easiest subject. It is followed by Mathematics. History and Geography is found to be easy by least number of students.

- History and Geography is found to be the most difficult subject by large number of students, closely followed by mathematics and English.

- Most of the students devote maximum time to Mathematics. It is followed by Bengali in this category.

- The number of students helped by a tutor is almost equal to that of not being helped by a tutor.

Separate Chi-square tests for homogeneity for the first four cases in Figure 4 have been conducted and the null hypothesis in all four cases were rejected at $\alpha = .01$ indicating that the students responded heavily in favour of some subject than other subjects. In the test for most liked subject largest contribution in the test statistic comes from the cell corresponding to Bengali indicating that it has greater probability of being liked by the students. Similar investigations show that the subject Bengali has greater probability of being considered easy or least difficult by the students. However mathematics remains the maximum time consuming subject as indicated by the chi square test.

Results based on schoolwise response.

Plots in Figure 5(a)-5(j) are based on the data obtained for each school as the percentage of students responding in different category options. For example, the percentage of students considering Bengali as most favorite subject has been calculated for each of the 36 schools and data have been plotted in the first histogram and the first boxplot in Figure 5(a). All other plots in Figure 5(a)-(j) are constructed in the same way. These plots give an idea about the schools' position based on their students' response. They also help in identifying schools with unusually high or low percentage of students in some category.

Figure 5(a)-(d): In Figure 5(a) a comparative study of the plots / tables corresponding to each subject shows that Bengali is the favourite subject of large percentage of students in most of the schools where as Mathematics comes in the second place so far the likings of the students are concerned. These results conform to those from the overall study in Figure 4. However there are 7 schools in which less than 20% students considered Bengali as their most favourite. The boxplot identifies some schools having unusually high percentage of students liking English, Mathematics and Natural Science. All other plots in Figure 5(b) – (d) show the same trends as were observed in Figure 4.

Figure 5(e): The plots show that in all schools at least 20% have tutors. This percentage goes up to 80% -100% for some schools.

Figure 5(f): In most of the schools (31 out of 36) more than 80% students said that they are given regular homework.

Figure 5(g): In almost all schools most of the students said that teachers come to class regularly.

Figure 5(h): The boxplots reveal that game is the most popular co curricular activity. Next popular is Art. Then come music, dance and others.

Figure 5(i): In most of the schools (34 out of 36) more than 80% students said that they read storybooks.

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Figure 5(e): The plots show that in all schools at least 20% have tutors. This percentage goes up to 80%, 100% for some schools.

Figure 5(f): In most of the schools (31 out of 36) more than 60% students said that they are given regular homework.

Figure 5(g): In almost all schools most of the students said that teachers come to class regularly.

Figure 5(h): The boxplots reveal that game is the most popular extra curricular activity. Next popular is Art. Then come music, dance and others.

Figure 5(i): In most of the schools (34 out of 36) more than 80% students said that they read story books.

Figure 5(j): In most of the schools (31 out of 36) at least 80% of the students are saying that they have dictations either sometimes or often.

In all these figures the extreme values i.e. the schools having unusually high or low percentages compared to other schools have been identified by the boxplots.

The Association Between the Factors/Choice Options and Language Performances:

Study on school wise performance.

Figure 6(a) plots the school wise performance in Bengali vs. other factors. Surprisingly it shows that schools with large percentage of students considering Bengali as most easy or favourite are performing poorly in that subject. On the other hand, performance in Bengali is better for those schools where Bengali is not considered as most favourite or easy.

Figure 6(b) plots the school wise performance in English vs. other factors. The performance in English ranges from poor to very good although English is considered neither easy nor favourite by most of the students of almost all the schools with a few exceptions. Again, there are some schools where the average performance is very poor in spite of the fact that a large percentage of students are spending a good amount of time in English.

Study on individual performance

In figure 7(a) and 7(b) the performances of the students falling in different categories according to their responses were compared. Statistical tests were also conducted and the results have been given in Table 2(a) and 2(b). For example the subject considered in Figure 7(a) is Bengali. In the first plot of Figure 7(a) there are two boxplots, the first one showing the score (in Bengali) distribution of the students whose favourite subject is Bengali and the second boxplot shows the score (in Bengali) distribution of other students. The two distributions indicate that there is not much difference in these two distributions. The first statistical test in Table 2(a) also supports the fact that (at α = .01)

(Figure 5(f)). In most of the schools (31 out of 50), at least 80% of the students are saying that they have distraction either sometimes or often.

In all these figures the extreme values i.e. the schools having unusually high or low percentages compared to other schools have been identified by the boxplots.

The Association Between the Parents/Choice Options and Language Performances:

Study on school wise performance

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- there is no significant difference between the scores of the students whose favourite subject is Bengali and those of the students whose favourite subject is different from Bengali.

Similarly the next two plots in Figure 7(a) and the corresponding statistical tests in Table 2(a) indicate that (at $\alpha = .01$)

- The average score in Bengali of the students who spend maximum time in Bengali is lower than the average score of other students.
- The average score in Bengali of the students who considers Bengali difficult is higher than the average score of other students.
- The average score in Bengali of the students who considers Bengali easy is lower than the average score of other students.

Some relevant information which will help to analyze the above results:

(i) Out of total 444 students who spend maximum time in Bengali, only 26 consider it to be difficult where as 239 consider it to be easy.

(ii) The total number of students who consider Bengali most difficult is 84 and all of them except a few are very good students scoring high points in Bengali and English both.

These information are also given in Table 2(c) .

From Figure 7(b) and Table 2(b) it is observed that (at $\alpha = .01$)

- There is no significant difference between the scores in English of the students whose favourite subject is English and those of the students whose favourite subject is other than English.

- The average score in English of the students who spend maximum time in English is lower than the average score of other students.
- The average score in English of the students who considers English difficult is lower than the average score of other students.
- The average score in English of the students who considers English easy is higher than the average score of other students.

Some relevant information which will help to analyze the above results:

(i) Out of 295 students who spend maximum time in English, 113 consider it to be difficult , 33 consider it to be easy , and

(ii) The total number of students who consider English most difficult is 438 and all of them except a few scored low in English.

These information are also given in Table 2(d).

In Table 3 the average score of the students taught by tutor has been compared with the scores of the students who don't have any tutor. The table indicates that the average total score in English and Bengali of the students who are taught by tutor is less than the average score of other students who study by themselves or taught by their parents.

Table 4 shows that the average total score of the students who study more than 3 hours is much higher than the students who study less than or equal to 3 hours.

Instructions to Read the Figures & Tables:

Four types of plots have been presented in this report. They are histogram, boxplot, scatterplot and barplot. Following are brief instructions to read these plots.

Histogram gives a display of frequency distribution using a series of vertical bars with heights proportional to the frequencies /percentages corresponding to different class

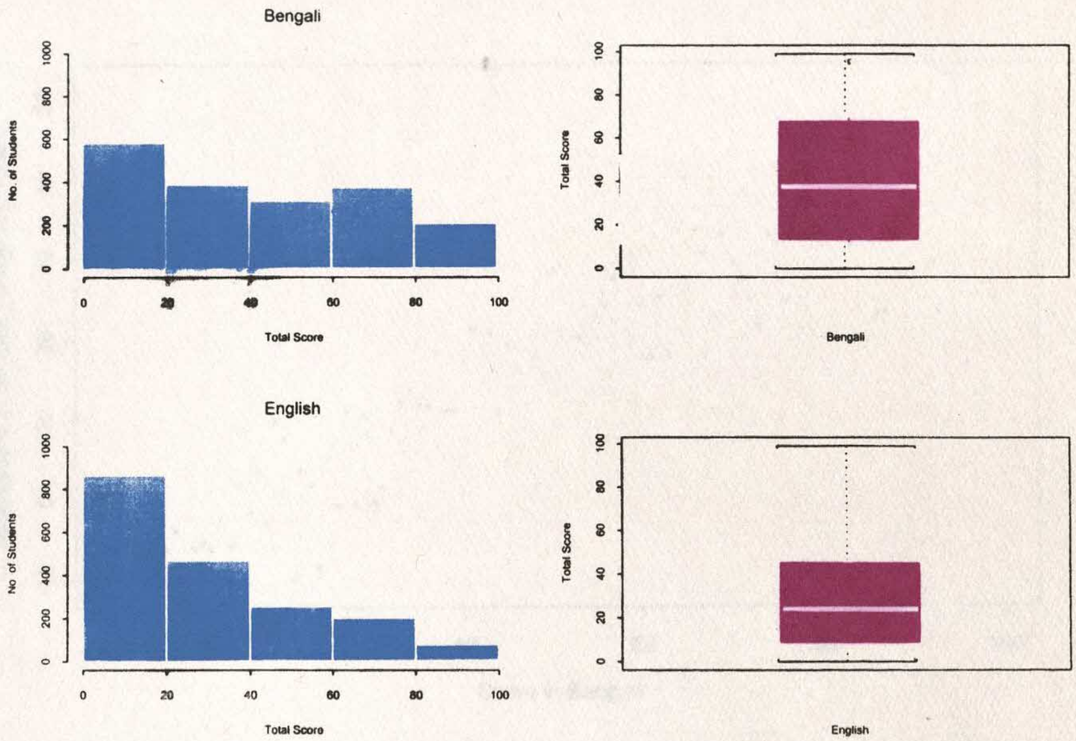
intervals. For example in Figure 1(a), the histogram corresponding to subject Bengali and the values in the 1st table below the plots show that there are 584 students scored less than 20 in Bengali. As revealed from the second histogram, the number of students in the same score group in English is 868. Similarly in Figure 5(a), the first histogram and the 1st table below the plots show that in 7 schools less than 20% students, and in 12 schools 40%-60% students consider Bengali as their most favourite subject.

In the boxplot, the box shows the limits of the middle half of the data. The line inside the box represents the median (Q_2). The end of the box corresponds to the 1st quartile (Q_1) and 3rd quartile (Q_3). By definition of the quartiles, the interval (Q_1,Q_3) contains middle 50% of the data. 25% or 1/4th of the observations have values above Q_3 whereas 25% or 1/4th of the observations have values below Q_1. Extreme points are highlighted by asterisks. The 1st boxplot in Figure 1(a) and the table values below the plots show that 50% of the students scored between 14-68 in Bengali whereas 25% of the students scored below 14 and 25% scored above 68. Similarly in the set of boxplots in Figure 5(a) the first box corresponds the percentage of students (in different schools) who consider Bengali as their most favourite subject. The plot and the second table below the plots show that, for half of the schools the percentage is between 26% – 59%. In 1/4th of the schools the percentage is less than 26% and in 1/4th of the schools the percentage is greater than 59%. Extreme values are identified by the points above (upper outlier) or below (lower outlier) the whiskers. In this plot we observe that for subject English there are two upper outliers. That means in these two schools the percentage of students considering English as most favourite is significantly high compared to other schools.

Scatterplot gives a visual representation of the relations between two variables X and Y. The coordinates of any point in the scatter plot shows the x-value and the y-value observed on the same sampling unit. For example in Figure 2(a) the points in the scatter plot are represented by the codes for the schools. For each point (school code) the x coordinate represents the school' average score in Bengali whereas the y coordinate represents the school' average score in English.

Barplot gives a series of bars whose heights are proportional to the frequencies corresponding to the categories mentioned along the horizontal axis. In the first plot in Figure 4 the bars show that for 651 students the most favourite subject is Bengali whereas for 69 students the most favourite subject is History and Geography.

Figure: 1(a)
Plots for Individual Total Score in Bengali and English



% of marks →	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
No. of students (Bengali)	584	389	315	377	208
No. of students (English)	868	468	257	202	78

Variable	Minimum	Q_1	Q_2	Q_3	Maximum
Score in Bengali	0	14	38	68	99
Score in English	0	9	24	45	99

Figure:1(b)
Plot for the average difference in score in Bengali and English

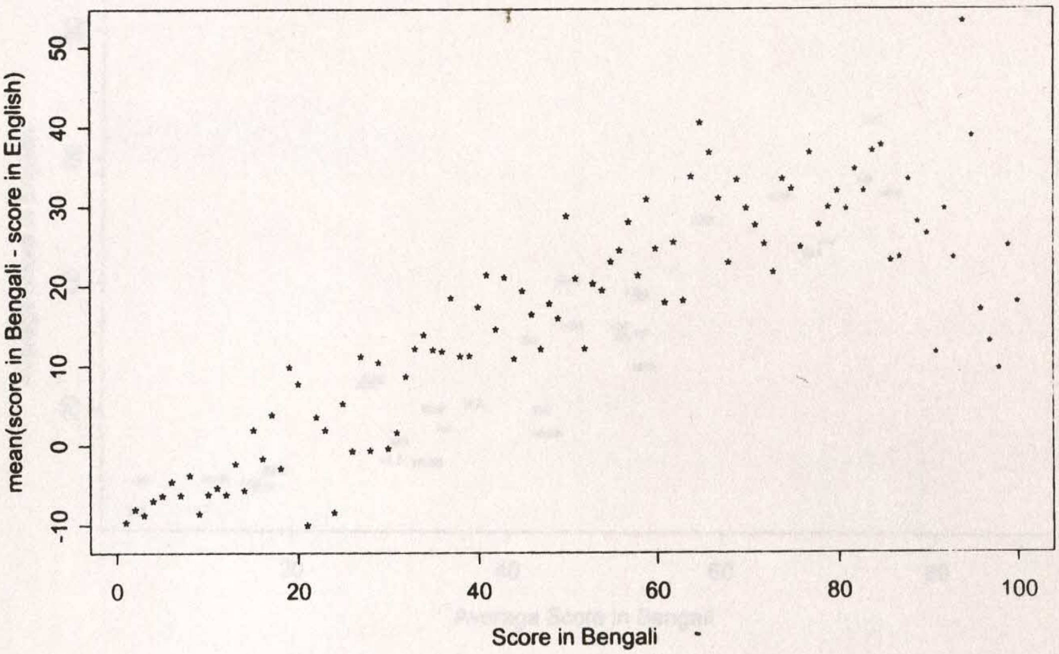


Figure: 2(a)

Plots for school score in Bengali and English

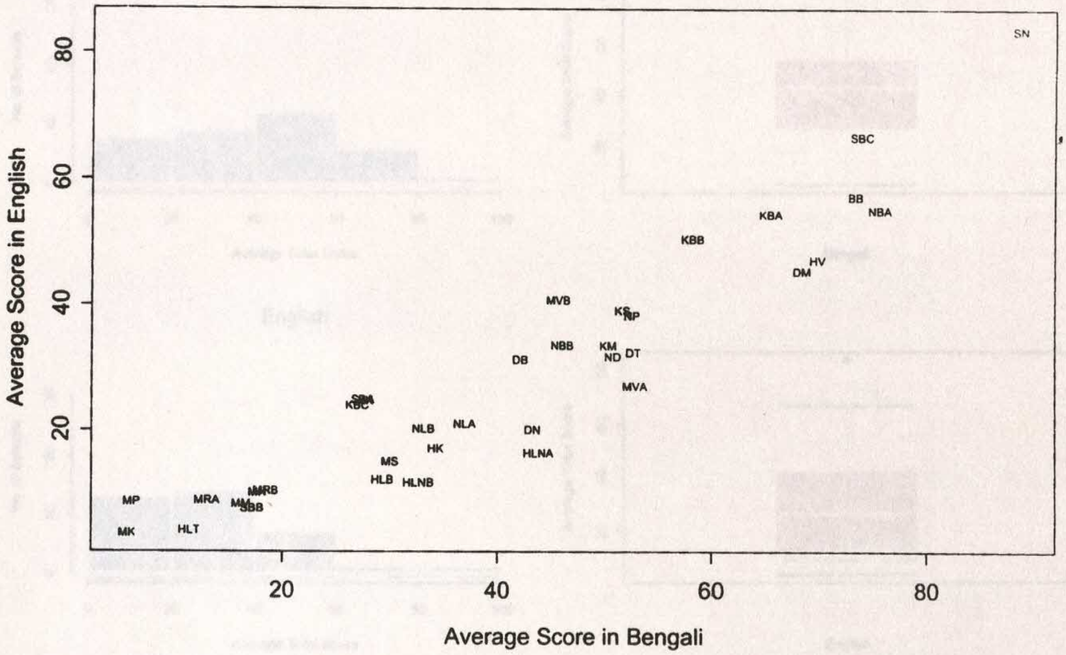
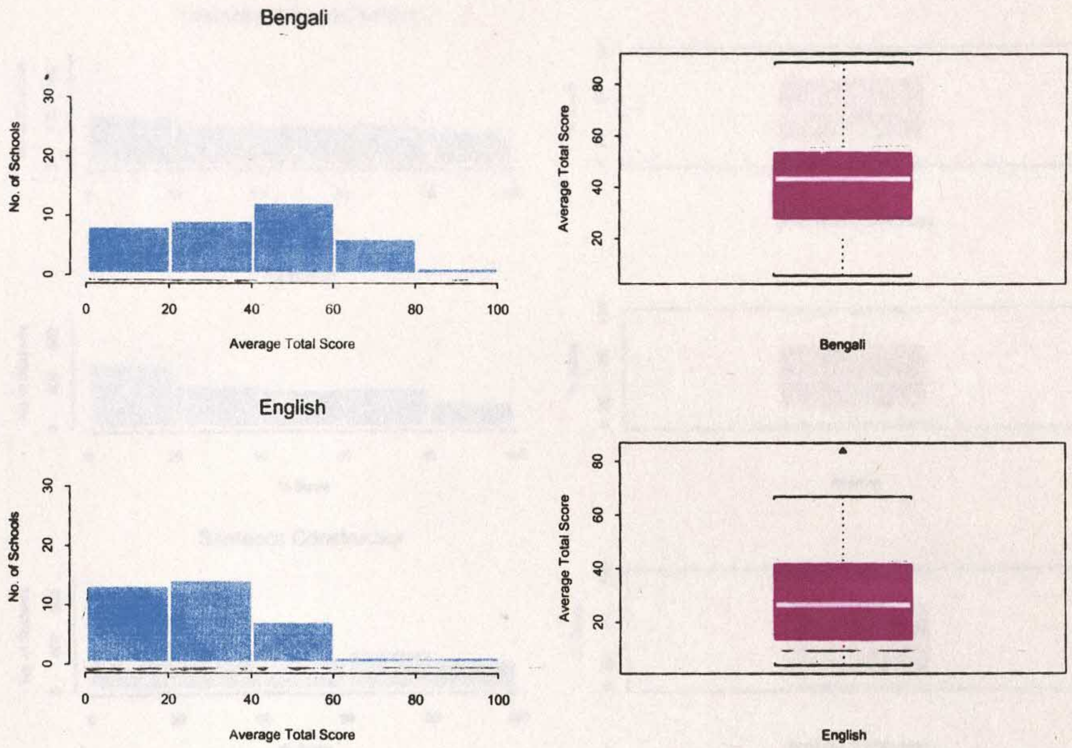


Figure: 2(b)

Plots for school wise average score in Bengali and English



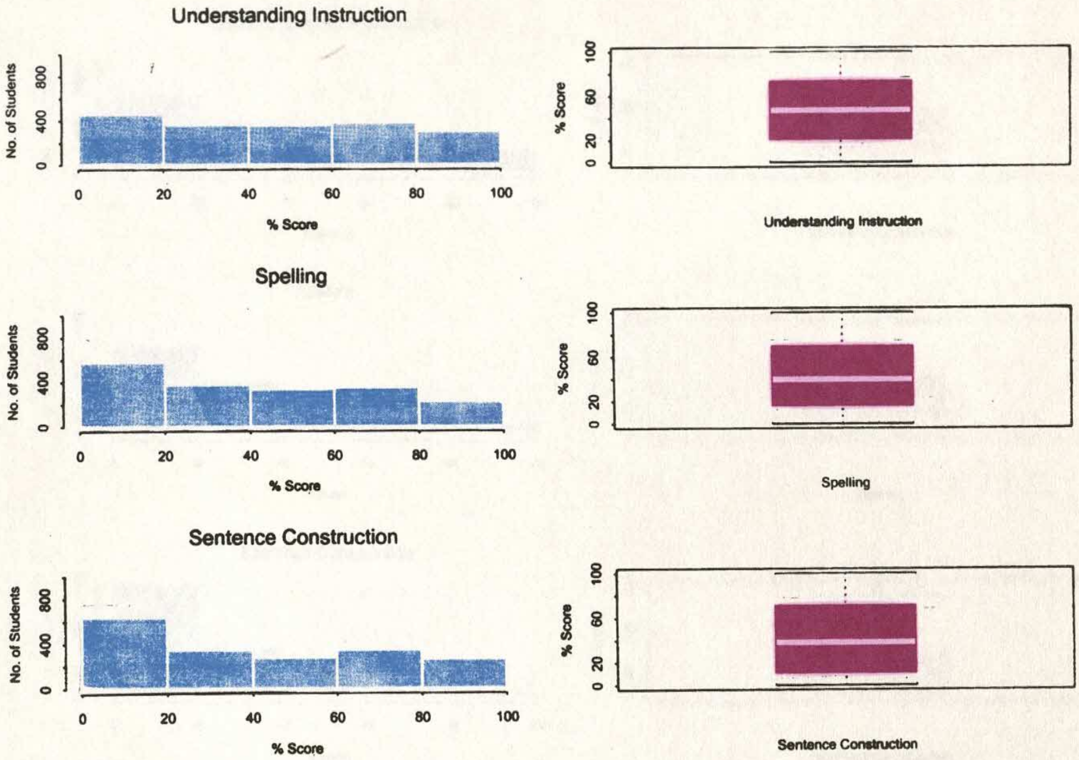
The entries in the table represent the number of schools in each category :

Average total score →	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
English	13	14	7	1	1
Bengali	8	9	12	6	1

Variable	**Minimum**	**Maximum**	**Q_1**	**Q_3**
Average score in Bengali	5.67	88.62	27.10	52.87
Average score in English	4.00	83.84	12.09	40.65

Figure: 3(a)

Plots for % score in different category
Subject: Bengali



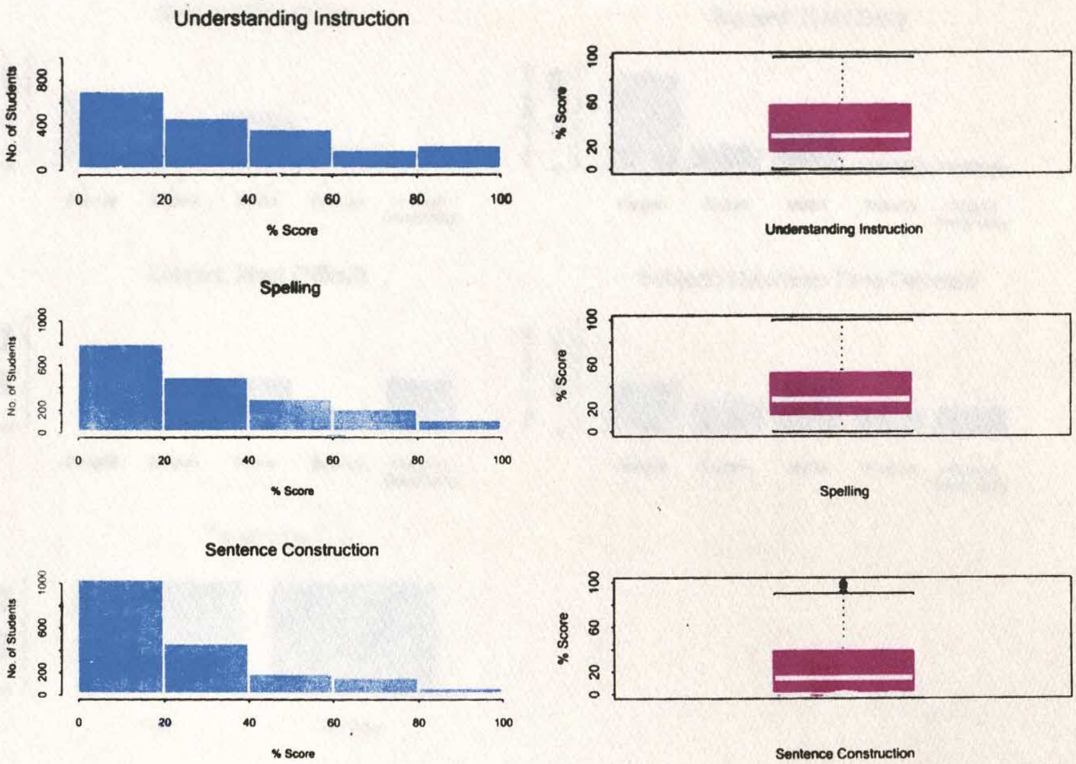
The values in the following table denote the number of students in each category.

% of marks →	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
Understanding Instruction	461	364	361	384	304
Spelling	582	381	339	349	223
Sentence Construction	636	347	279	348	264

% of marks in	**Minimum**	**Q_1**	**Q_2**	**Q_3**	**Maximum**
Understanding Instruction	0	21.05	47.37	73.68	100
Spelling	0	16.67	40.00	70.00	100
Sentence Construction	0	11.43	38.57	71.43	100

Figure: 3(b)

Plots for % score in different category
Subject: English



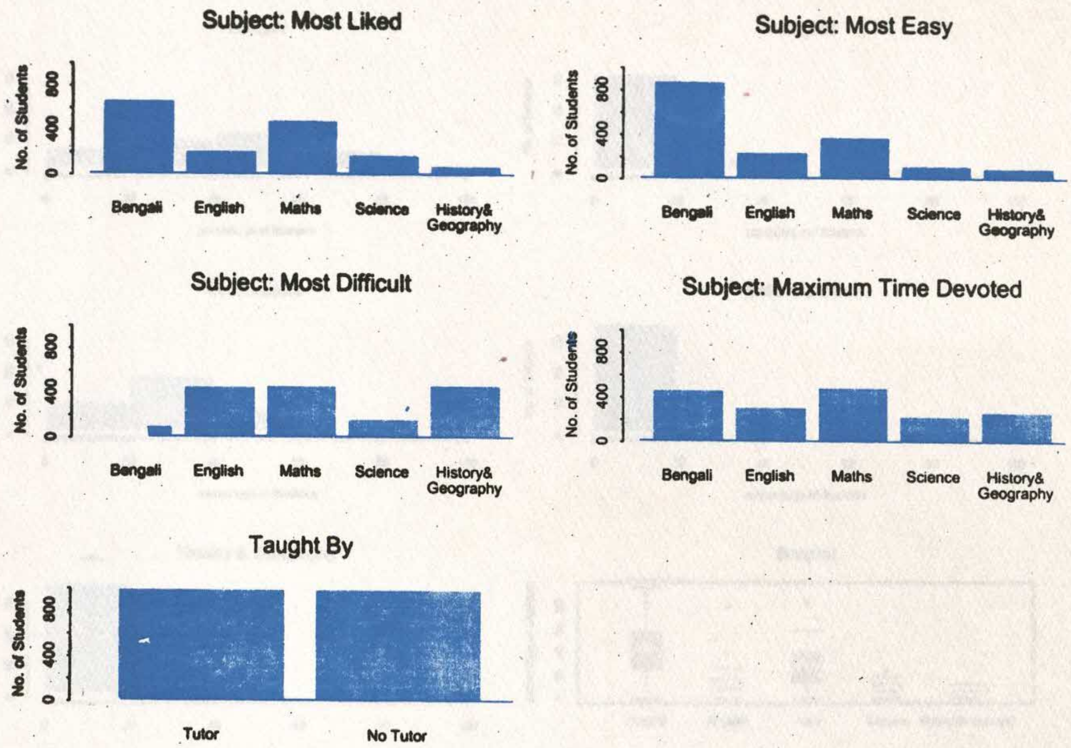
The values in the following table denote the number of students in each category.

% of marks →	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
Understanding Instruction	693	453	354	167	208
Spelling	789	486	295	203	102
Sentence Construction	1028	455	185	149	58

% of marks in	**Minimum**	**Q_1**	**Q_2**	**Q_3**	**Maximum**
Understanding Instruction	0	13.64	27.27	54.55	100
Spelling	0	13.33	26.67	50.00	100
Sentence Construction	0	0	12.00	36.00	100

Figure: 4

Plots for responses in different categories: all students combined



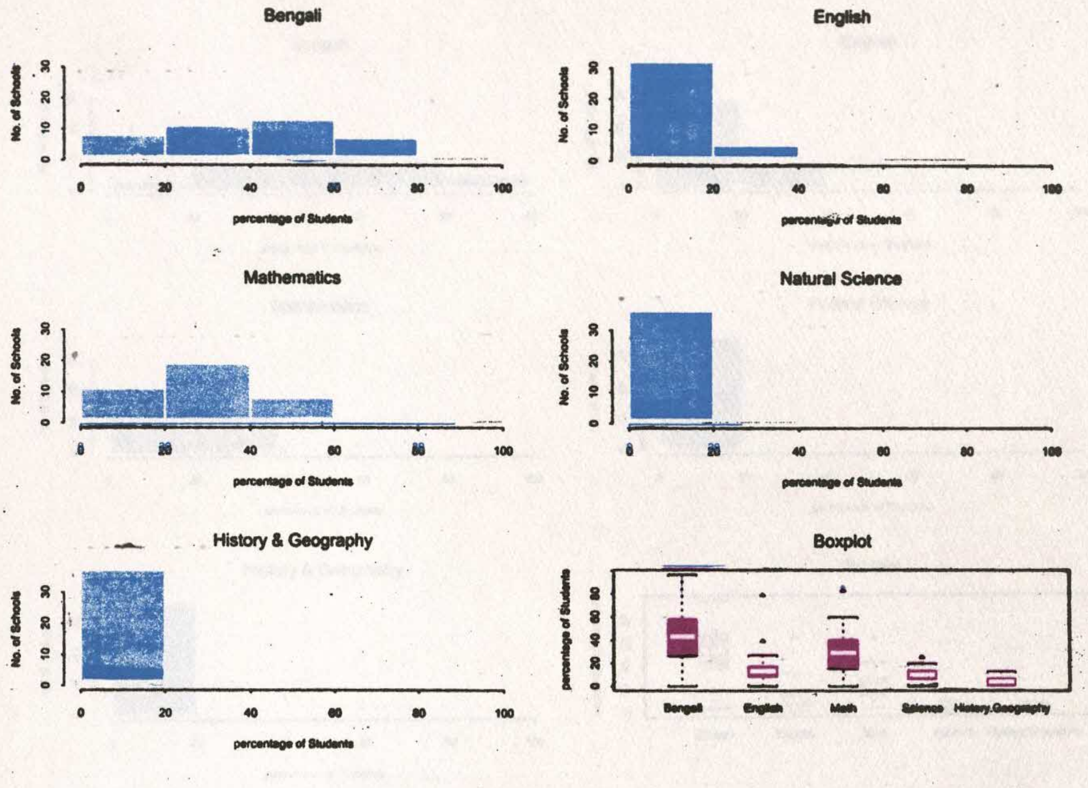
The values in the following table denote the number of students in each category:

Subject	Bengali	English	Math	Science	History & Geography
most liked	651	193	467	164	69
most easy	858	222	360	106	88
max time devoted	444	295	473	219	255
most difficult	84	438	443	152	455

No. of students taught by tutor: 972

No. of students without tutor: 969

Figure: 5(a)
Plots for most liked subject



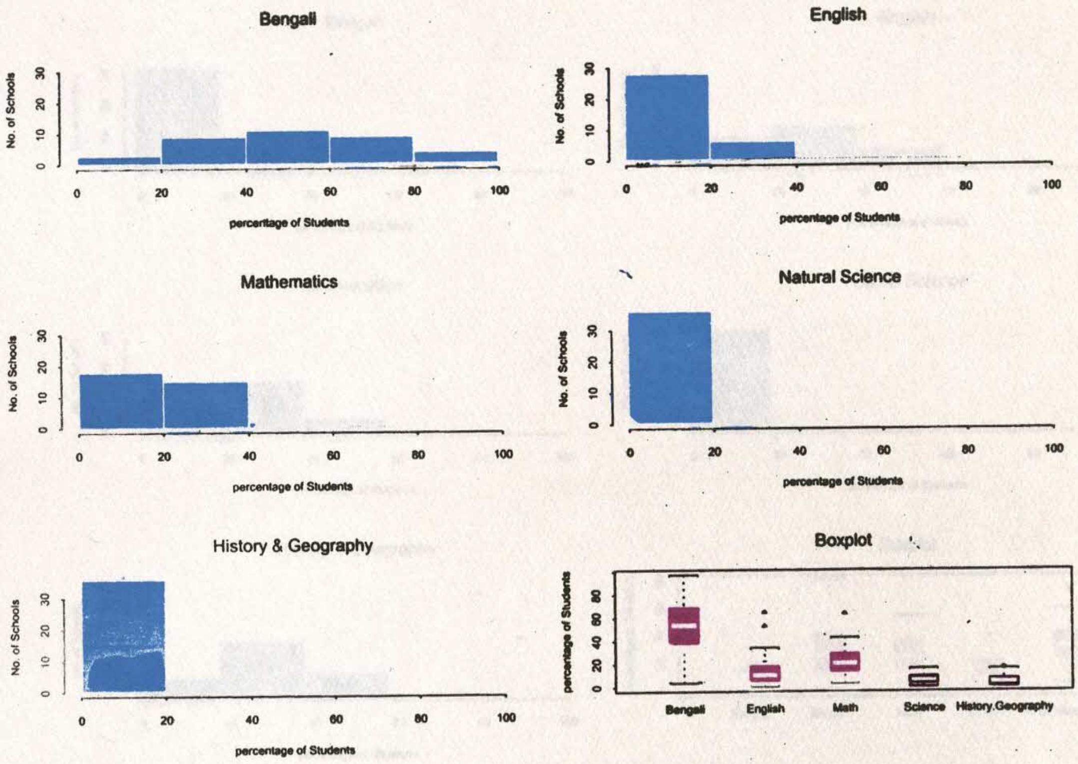
The entries in the table represent the number of schools in each category :

% of students / Subject	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
Bengali	7	10	12	6	1
English	31	4	0	1	0
Mathematics	10	18	7	0	1
Natural Science	35	1	0	0	0
History &Geography	36	0	0	0	0

The entries in the table represent different statistics for the variables under study:

Subject	Minimum	Maximum	Q_1	Q_3
Bengali	0.00	96.97	25.89	58.53
English	0.00	78.57	7.50	17.13
Mathematics	0.00	82.35	15.43	39.77
Natural Science	0.00	24.44	5.79	12.80
History & Geography	0.00	12.50	0.37	6.40

Figure: 5(b)
Plots for most easy subject



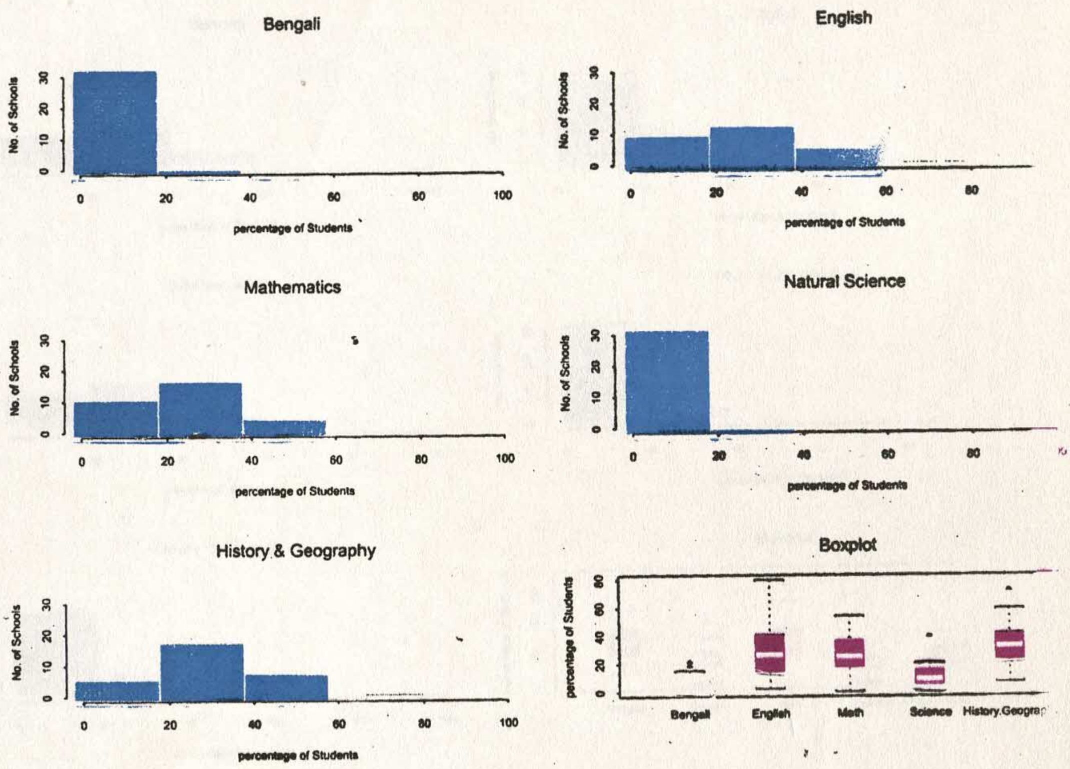
The entries in the table represent the number of schools in each category :

% of students / Subject	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
Bengali	3	9	11	9	4
English	28	6	1	1	0
Mathematics	18	15	2	1	0
Natural Science	36	0	0	0	0
History & Geography	36	0	0	0	0

The entries in the table represent different statistics for the variables under study:

Subject	Minimum	Maximum	Q_1	Q_3
Bengali	3.70	97.37	37.88	69.61
English	0.00	64.29	4.79	18.20
Mathematics	2.63	62.96	13.57	29.02
Natural Science	0.00	15.79	2.82	9.29
History &Geography	0.00	15.79	0.52	7.02

Figure: 5(c)
Plots for most difficult subject



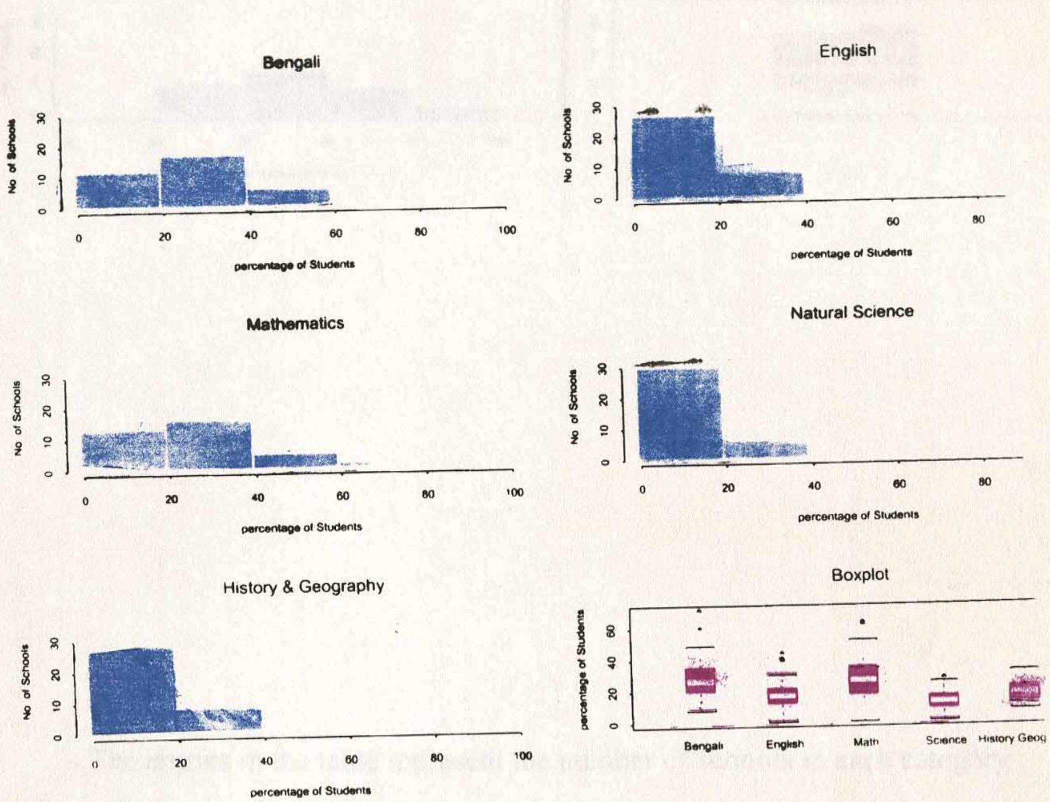
The entries in the table represent the number of schools in each category :

Subject \ % of students	[0 , 20)	[20, 40)	[40,60)	[60, 80)	[80, 100]
Bengali	34	2	0	0	0
English	12	15	8	1	0
Mathematics	12	18	6	0	0
Natural Science	34	2	0	0	0
History & Geography	7	19	9	1	0

The entries in the table represent different statistics for the variables under study:

Subject	Minimum	Maximum	Q_1	Q_3
Bengali	0.00	21.05	0.00	7.30
English	2.33	80.00	12.83	41.44
Mathematics	0.00	54.17	16.85	36.61
Natural Science	0.00	38.78	3.98	14.71
History &Geography	6.35	71.43	21.84	41.13

Figure: 5(d)
Plots for subject to which maximum time is devoted



The entries in the table represent the number of schools in each category :

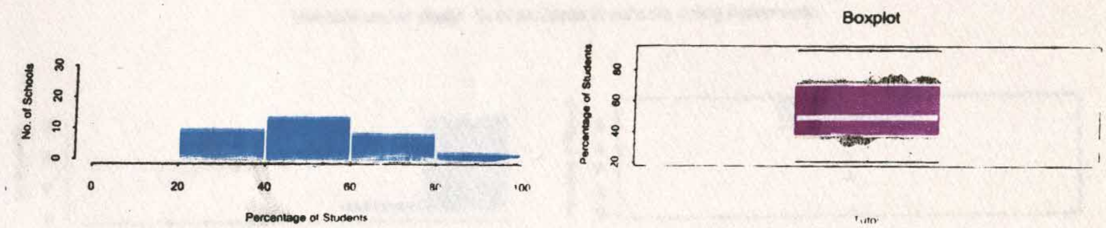
% of students / Subject	[0,20)	[20,40)	[40,60)	[60,80)	[80,10(
Bengali	12	17	6	1	0
English	27	8	1	0	0
Mathematics	13	16	5	2	0
Natural Science	30	6	0	0	0
History &Geography	28	8	0	0	0

The entries in the table represent different statistics for the variables under study:

Subject	**Minimum**	**Maximum**	**Q_1**	**Q_3**
Bengali	7.69	71.43	18.85	34.05
English	0.00	43.75	11.31	20.31
Mathematics	0.00	62.92	16.67	34.56
Natural Science	0.00	26.92	7.74	14.98
History &Geography	6.450	31.250	10.534	19.81

Figure: 5(e)
Plots for Students Taught by Tutor

Variables under study: % of students in schools taught by tutor



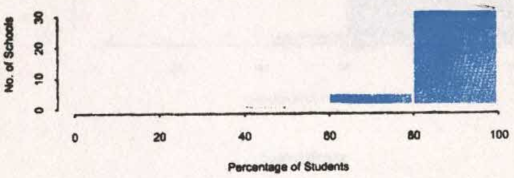
The entries in the table represent the number of schools in each category :

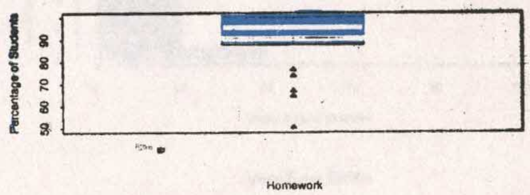
% of students taught by tutor	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
No. of schools	0	10	14	9	3

Percentage of students taught by tutor	**Minimum**	**Maximum**	**Q_1**	**Q_3**
	7.00	86.00	17.25	35.50

Figure: 5(f)
Plots for homework

Variable under study: % of students in schools doing homework.



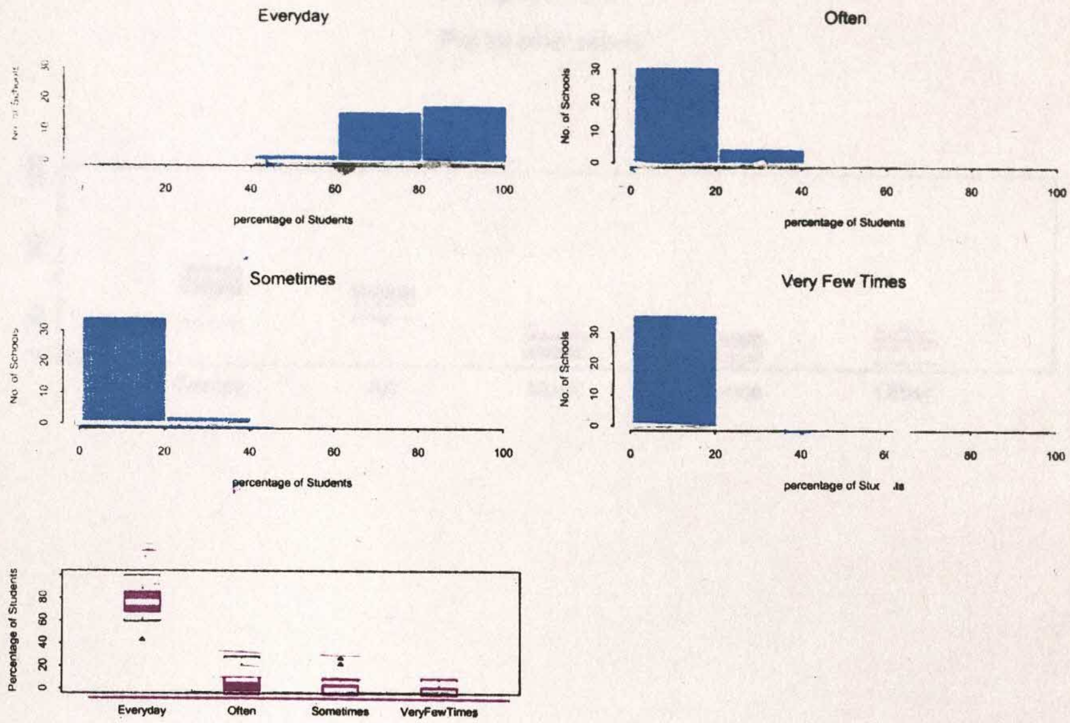


% of students doing homework	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100].
No. of schools	0	0	1	4	31

	Minimum	Maximum	Q_1	Q_3
% of students doing homework	50.00	100.00	91.04	100.00

Figure: 5(g)
Plot for teachers' attendance

Variable under study % of students in schools responding about teachers' attendance.



The entries in the table represent the number of schools in each category :

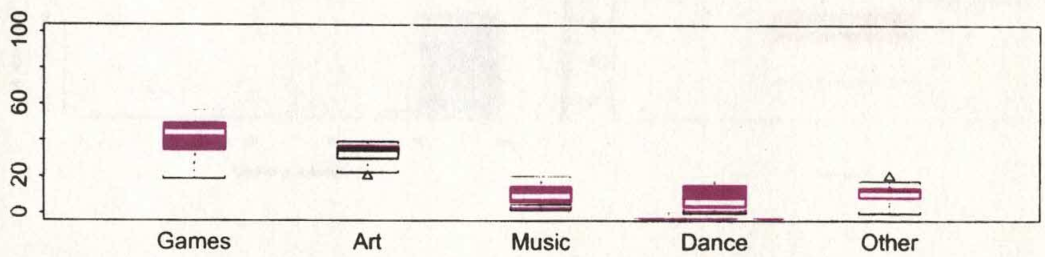
% of students / teachers' attendance	[0 , 20]	[20, 40]	[40, 60]	[60, 80]	[80, 100]
Everyday	0	0	2	16	18
Often	31	5	0	0	0
Sometimes	34	2	0	0	0
Very few times	36	0	0	0	0

The entries in the table represent different statistics for the variables under study:

Teachers' Attendance	Minimum	Maximum	Q_1	Q_3
Everyday	42.86	100.00	71.91	90.45
Often	0.00	28.57	2.94	16.50
Sometimes	0.00	26.67	0.41	8.24
Very few times	0.00	14.29	0.00	6.23

Figure: 5(h)

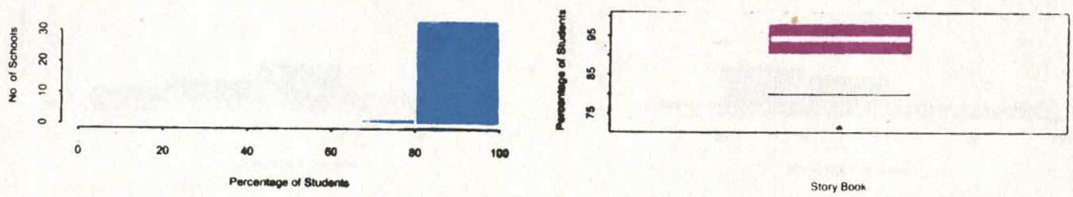
Plot for other activity



The entries in the table represent different statistics for the variables under study:

Activities	**Minimum**	**Maximum**	Q_1	Q_3
Games	18.84	56.67	33.50	48.96
Art	20.29	39.34	29.75	35.99
Music	1.75	20.29	4.96	13.93
Dance	0.00	20.29	2.48	14.36
Other	0.00	20.29	7.39	12.63

Figure: 5(i)
Plot for storybooks
Variable under study: % of students reading storybooks

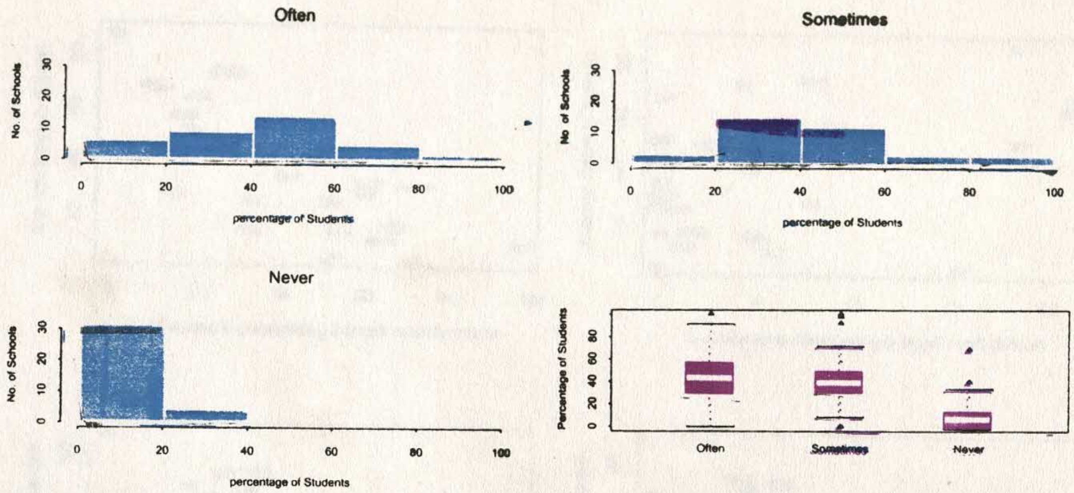


% of students reading storybooks	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
No. of schools	0	0	0	2	34

	Minimum	**Maximum**	**Q_1**	**Q_3**
% of students reading Story Books	71.43	100.00	90.52	97.86

Figure: 5(i)
Plot for dictation

Variable under study: % of students in schools responding in different caotegories about whether dictation is given.



The entries in the table represent the number of schools in each category :

% of students / Dictation is given	[0 , 20)	[20, 40)	[40, 60)	[60, 80)	[80, 100]
Often	6	9	14	5	2
Sometimes	3	15	12	3	3
Never	31	4	0	1	0

The entries in the table represent different statistics for the variables under study:

Dictation	**Minimum**	**Maximum**	**Q_1**	**Q_3**
Often	0.00	100.00	29.43	58.40
Sometimes	0.00	100.00	32.17	51.03
Never	0.00	68.97	2.03	15.63

Figure: 6(a)
Plots for performance of schools in Bengali vs. other factors

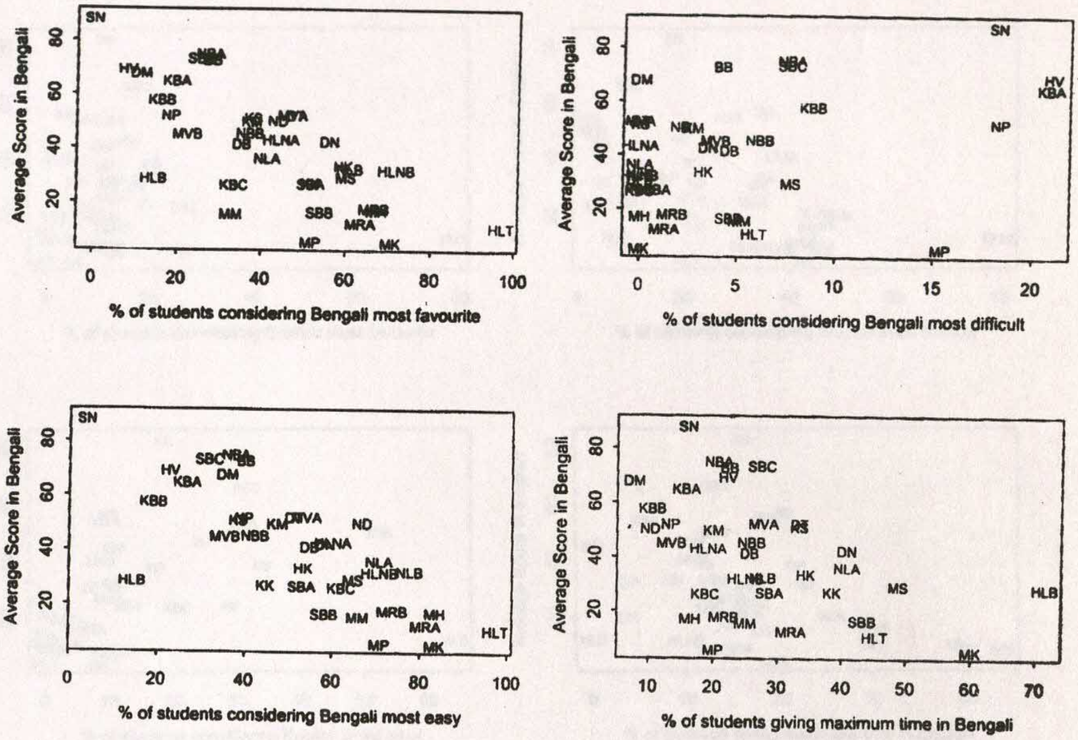


Figure: 6(b)
Plots for performance of schools in English vs. other factors

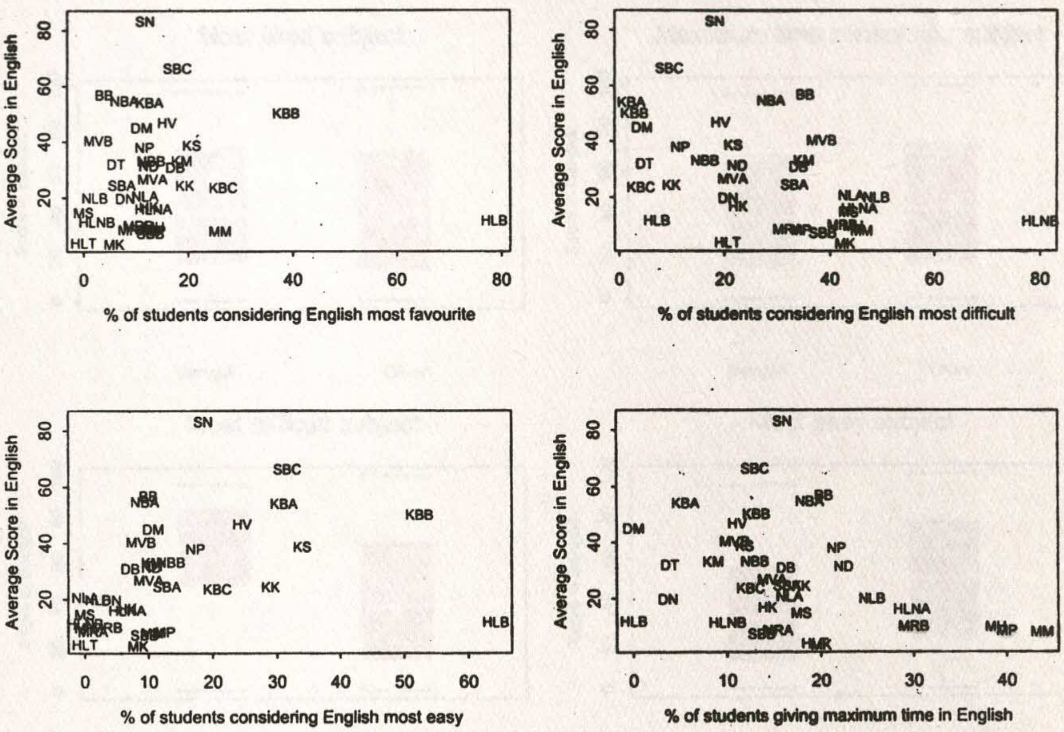


Figure: 7(a)
Plots for individual choice and score in Bengali

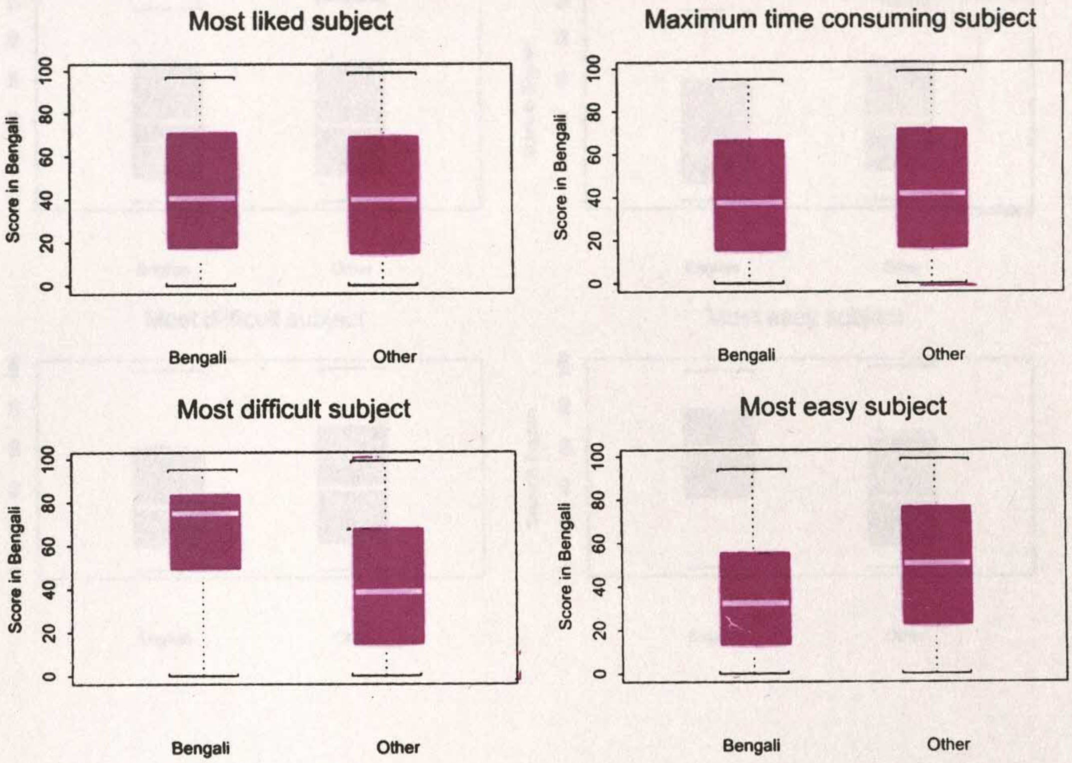


Figure: 7(b)
Plots for individual choice and score in English

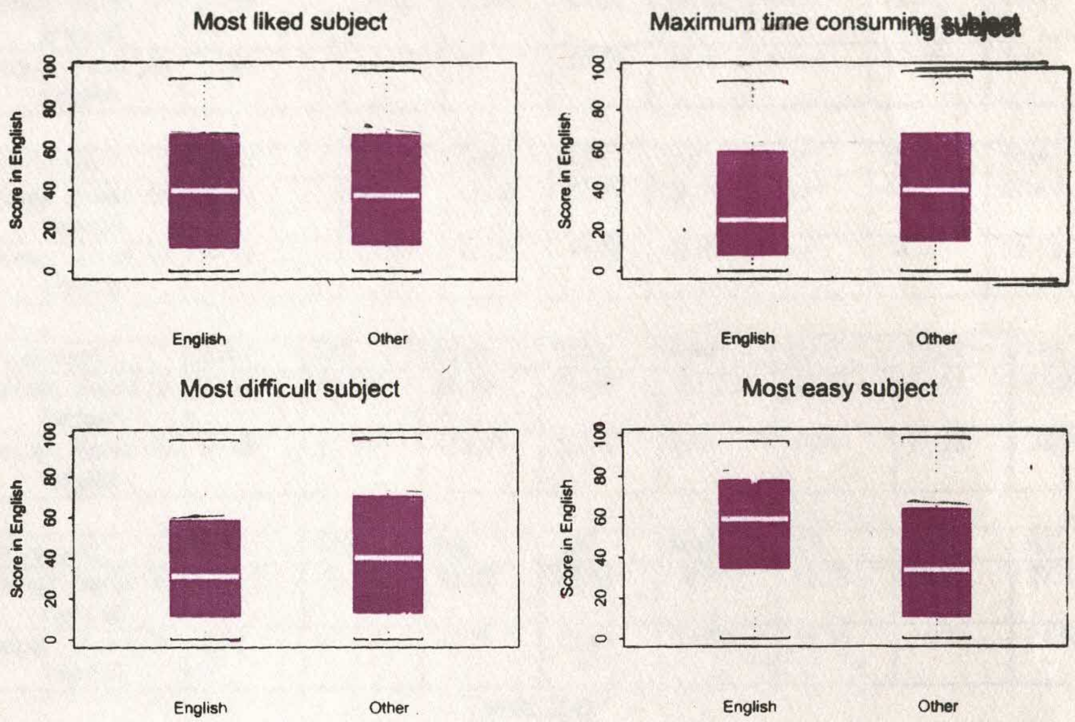


Table 1: Schools' average score in Bengali and English.

School code	NLA	NP	ND	NLB	DB	DM	DT	MP	MK
Average Score in Bengali	36.89	52.62	50.86	33.08	42.11	68.39	52.75	6.08	5.67
Average Score in English	21.31	38.57	32	20.51	31.55	45.64	32.66	8.95	4

School code	MVA	MVB	MRB	MH	SBC	MRA	KBA	SBA	HLB
Average Score in Bengali	52.91	45.74	18.43	17.64	74.01	12.99	65.53	27.47	29.29
Average Score in English	27.31	41.01	10.71	10.39	66.97	9.16	54.69	25.13	12.43

School code	BB	MS	KBB	NBA	MM	HLT	HLNB	DN	HLNA
Average Score in Bengali	73.44	30.02	58.35	75.68	16.15	11.37	32.65	43.24	43.81
Average Score in English	57.46	15.31	50.74	55.36	8.65	4.45	11.98	20.35	16.67

School code	SBB	HV	HK	SN	KM	KS	KBC	KK	NBB
Average Score in Bengali	17.15	69.81	34.22	88.63	50.45	51.77	26.97	27.74	46.09
Average Score in English	7.92	47.44	17.36	83.84	33.79	39.35	24.22	24.98	33.82

Table 2(a)

	Average score in Bengali	s.d.
Students who liked Bengali	42.2	28.72
Other students	40.36	28.73

z = 1.24 , (not significant)

	Average score in Bengali	s.d.
Students spending maximum time in Bengali	38.345	27.62
Other students	41.78	29.01

z = -2.219 , (significant)

	Average score in Bengali	s.d.
Students considering Bengali easy	34.05	25.76
Other students	47.05	29.80

z = -2.79 , (significant)

	Average score in Bengali	s.d.
Students considering Bengali difficult	61.26	27.29
Other students	40.05	28.45

z = 6.91, (significant)

Table 2(b)

	Average score in English	s.d.
Students spending maximum time in English	25.11	23.29
Other students	30.32	24.74

z = -3.45 , (significant)

	Average score in English	s.d.
Students who liked English	28.86	25.29
Students who liked other subject	29.56	24.51

z = -.361 , (not significant)

	Average score in English	s.d.
Students considering English easy	40.86	26.06
Other students	27.91	23.95

z = 6.95 , (significant)

	Average Total Score in English	s.d.
Students considering English difficult	23.30	21.87
Other students	31.37	25.05

z = -6.29 , (significant)

Table 2 (c)

Table showing the number of students responding in each category:

Subject: Bengali

	Maximum time consuming	Most liked	Most difficult	Most easy
Maximum time consuming	444	149	26	239
Most liked	149	651	42	286
Most difficult	26	42	84	6
Most easy	239	286	6	858

Table 2 (d)

Table showing number of students responding in each category:

Subject: English

	Maximum time consuming	Most liked	Most difficult	Most easy
Maximum time consuming	295	35	113	33
Most liked	35	193	48	21
Most difficult	113	48	438	3
Most easy	33	21	3	222

Table: 3.

	Average Total Score in Bengali and English	s.d.
Students taught by tutor	33.81	22.09
Students without tutor	36.84	25.47

z = -2.79, (significant)

Table: 4

	Average Total Score in Bengali and English	s.d.
Students studying more than 3 hours	77.51	47.92
Students studying less than or equal to 3 hours	51.57	41.32

z = 13.97 (significant)

Conclusion

In conducting the study the Committee did not use any existing model; rather it has developed its own experimental design, which may be applied in further investigations in the relevant area.

There is strong evidence that on an average students perform better in Bengali than in English. This, the Committee feels, is quite natural. However, it has also been found that except for very good students, the difference between competencies in Bengali and in English increases proportionately with the score. This perhaps implies that average students continue to find English a more difficult subject even when they fare better in their mother tongue.

School-based results of overall language performance indicate that the average score in Bengali is higher than that in English.

From the break-up of the competencies, it is seen that the ability to spell words correctly, understand instructions and construct sentences is lower for English than for Bengali. It is particularly observed that students fare poorly in sentence construction in both the languages, more so in English. The casual relationship between performance and practices in classroom and the learning environment to which the pupil is exposed may be explored further.

One significant finding reveals that History and Geography appears to be the most difficult subject to most of the students. The Committee suspects that this may be a result of the standard and quality of the textbooks followed. The Committee, therefore, recommends a thorough review of these textbooks, particularly their style and lucidity of language.

The number of students in the sample who receive help from private tutors is almost equal to that of those who do not. Interestingly, it is found that the students who take private tutors help on an average perform poorer than those who do not get such help.

Supplementary Report
of
The School Education Committee, West Bengal

(Part – B)

Report on Achievement survey on Language Learning

ANNEXURES:

i) List of Schools

(Boys' School)

Sl. No.	Name of the School	Date of Survey	District	Students' Number
1.	Narendrapur Ramkrishna Mission School	07.05.2003	South 24 Parganas	32
2.	Ballygunge Government High School	08.05.2003	Kolkata	98
3.	Metropolitian (Main) School	10.05.2003	Kolkata	38
4.	Ranaghat Palchaudhuri H.S. School	14.05.2003	Nadia	60
5.	Baradakanta Vidyapith	14.05.2003	Darjeeling	44
6.	Ranaghat Lalgopal H.S. School	15.05.2003	Nadia	35
7.	Tarai Tarapada Adarsha Vidyalaya	15.05.2003	Darjeeling	53
8.	Nilnalini Vidyamandir	15.05.2003	Darjeeling	33
9.	Behala High School	16.05.2003	South 24 Parganas	136
10.	Narayanpur A. B. High School	17.05.2003	Hooghly	47
11.	Vidyasagar Vidyapith	19.05.2003	Paschim Medinipur	44
12.	Sabang Saradamayee High School	22.05.2003	Paschim Medinipur	52
13.	Ranaghat Bharati High School	23.05.2003	Nadia	55
14.	Burdwan Town School	23.05.2003	Burdwan	50
15.	Howrah Vivekananda Mission	20.05.2003	Howrah	64
16.	Bratachari Vidyasram	20.05.2003	South 24 Parganas	47
17.	Kidderpore Academy	23.05.2003	Kolkata	42

(Girls' School)

Sl. No.	Name of the School	Date of Survey	District	Students' Number
1.	Beltala Girls' High School	12.05.2003	Kolkata	43
2.	Bankim Ghosh Memorial Girls' High School	14.05.2003	Kolkata	37
3.	Sharat Chandra Paul Girls' High School	16.05.2003	Kolkata	52
4.	Lalgopal Girls' High School	17.05.2003	Nadia	49
5.	Brajabala Girls' H.S. School	17.05.2003	Nadia	53
6.	Narayanpur Balika Vidyalaya	19.05.2003	Hooghly	43
7.	Vidyasagar Vidyapith	19.05.2003	Paschim Medinipur	58
8.	Harirhat Anath Smriti Girls' School	22.05.2003	Paschim Medinipur	77
9.	Debnath Institution for Girls' School	22.05.2003	Nadia	49
10.	Kashundia Mahakali Balika Vidyalaya	20.05.2003	Howrah	36
11.	Barisha Girls' High School	22.05.2003	South 24 Parganas	70
12.	Bhitasin Uchcha Balika Vidyalaya		Hooghly	14

(Coeducational Schools)

Sl. No.	Name of the School	Date of Survey	District	Students' Number
1.	Margaret Sister Nivedita High School	14.05.2003	Darjeeling	28
2.	Tarakeswar Vidyamandir	20.05.2003	Hooghly	38
3.	Rangamati K. M. High School	19.05.2003	Paschim Medinipur	91
4.	Panchgeria High School	20.05.2003	Paschim Medinipur	38
5.	Kuldiha Rajkrishna Nilkantha Junior High School	20.05.2003	Paschim Medinipur	28
6.	Maratola Satyeswar Institution	20.05.2003	Paschim Medinipur	52
7.	Ruinan Junior High School	22.05.2003	Paschim Medinipur	88

(Digital Format of Data)

SL_NO	NAME	W_A TTN	S_N AME	R _MOR	R_EVE	M-SUB	R-OWN	TUTOR	H-SUB	E-SUB	STORY	EXCURR	T-ATTEN	DICTATION	HWORK	CHECK

Abbreviations:

W ATTN :Weekly Attendance
S NAME :Most linked subject
R MOR : Reading Morning
R EVE :Reading Evening
M-SUB : Maximum Time Devoted
R-OWN : Reading Own
TUTOR : Tutor (Yes/No)
H-SUB : Hard Subject
E-SUB : Easy Subject ·
CHECK : Homework Checking
STORY : Habit of Story Reading
EXCURR : Extra Curricular Activities
T-ATTEN : Teacher Attendance
H WORK : Homework

১৪) বিদ্যালয়ে কোন বিষয়টি সবচেয়ে সহজ লাগে ?

কেন ?

১৫) বিদ্যালয়ে কি কেবল বই পড়ানো হয় ?

অন্য ভাবেও কি শেখানো হয় ?

১৬) ক) গল্পের বই পড় কি ?

খ) যদি পড়, কখন এবং কতক্ষণ পড় ?

গ) যদি না পড়, কেন পড় না ?

১৭) পড়াশোনা ছাড়া এই কাজগুলো কর কি ?

ক) খেলাধূলা

খ) ছবিআঁকা

গ) গান বাজনা

ঘ) নাচ

ঙ) অন্যকিছু

১৮) বিকালে কি কর ?

খেলি, পড়ি, বেড়াই, বন্ধুদের সঙ্গে গল্প করি, অন্যকিছু (সঠিক উত্তরে দাগ দাও)

১৯) তোমার শিক্ষক / শিক্ষিকা শ্রেণিকক্ষে আসেন ?

ক) প্রত্যেকদিন

খ) বেশিরভাগ দিন

গ) কখনো কখনো

ঘ) খুব কমই

২০) তোমার শিক্ষক / শিক্ষিকা শ্রুতিলিখন দেন কি ?

ক) প্রায়সময়েই

খ) কখনো কখনো

গ) কখনোই না

২১) তোমার শিক্ষক / শিক্ষিকা বাড়ির কাজ দেন কি ? হ্যাঁ ☐ না ☐

২২) তোমার শিক্ষক / শিক্ষিকা বাড়ির কাজ সংশোধন করেন কি ?

ক) প্রায়সময়েই

খ) কখনো কখনো

গ) একেবারেই না

<u>দ্রষ্টব্য: বাংলা আকাদেমি প্রবর্তিত বানানবিধি অণুসরণ করা হয়েছে ।</u>

(Questionnaire)

শিক্ষার্থীদের জন্য প্রশ্নোত্তরিকা

১) নাম

২) বাবার নাম

৩) মায়ের নাম

৪) কোথায় থাকো ?

৫) তুমি যে বিদ্যালয়ে পড় তার নাম কী ?

৬) তুমি সপ্তাহে কদিন বিদ্যালয়ে যাও ?

১ ☐ ২ ☐ ৩ ☐ ৪ ☐ ৫ ☐

৭) কী কী বিষয় পড় ?

৮) কোন্ বিষয়টি সবচেয়ে ভাল লাগে ?

ক) বাংলা

খ) ইংরেজি

গ) গণিত

ঘ) প্রকৃতি বিজ্ঞান

ঙ) ইতিহাস ও ভূগোল

৯) বাড়িতে সারাদিন কতক্ষণ পড় ? সকাল : ১ঘন্টা / ২ঘন্টা / ৩ঘন্টা

বিকাল : ১ঘন্টা / ২ঘন্টা / ৩ঘন্টা

১০) সবচেয়ে বেশী সময় ধরে কোন বিষয়টি পড় ?

ক) বাংলা

খ) ইংরেজি

গ) গণিত

ঘ) প্রকৃতি বিজ্ঞান

ঙ) ইতিহাস ও ভূগোল

১১) তুমি কি বাড়িতে নিজে নিজে পড় ?

১২) বাড়িতে কে পড়া দেখিয়ে দেন ?

মা

বাবা

অন্য আত্মীয়

মাষ্টার মশাই / দিদিমণি

১৩) বিদ্যালয়ে কোন বিষয়টি সবচেয়ে কঠিন লাগে ?

কেন ?

(Coeducational Schools)

Sl. No.	Name of the School	Date of Survey	District	Students' Number
1.	Margaret Sister Nivedita High School	14.05.2003	Darjeeling	28
2.	Tarakeswar Vidyamandir	20.05.2003	Hooghly	38
3.	Rangamati K. M. High School	19.05.2003	Paschim Medinipur	91
4.	Panchgeria High School	20.05.2003	Paschim Medinipur	38
5.	Kuldiha Rajkrishna Nilkantha Junior High School	20.05.2003	Paschim Medinipur	28
6.	Maratola Satyeswar Institution	20.05.2003	Paschim Medinipur	52
7.	Ruinan Junior High School	22.05.2003	Paschim Medinipur	88

(FORMAT FOR MARKING)

SCHOOL:-

SUBJECT: BENGALI

FULL MARKS - 100

Roll No.	Gen. Infor.	Question 1 Full Marks - 40							Question 2 Full Marks - 20						Question 3 Full Marks - 40						Total Marks
		UN.INS [5]	COSP [5]	CO.SEN [10]	N.NSS [5]	PUN MA [5]	EXPTHO [5]	TOP.DES [5]	UN.INS [2]	COSP [5]	N.NSS [3]	PUN. MA [2 1/2]	COM.ANS [2 1/2]	AN.CO.SN [5]	UN.INS [2 1/2]	N.NSS [2 1/2]	CO.WD [5]	M.CO.SEN [20]	PUN. MA [5]	CO.SP [5]	

Abbreviations:-

Gen. Infor. : General Information
UN.INS : Understanding Instructions
CO.MEN : Correct Meanings
CO.SP : Correct Spellings
N.NSS : Neatness
CO.SEN : Correct Sentences
TOP.DES : Topic Description

CO. WD. : Correct Use of Words
PUN.MA : Punctuation Marks
AN.CO.SN. : Answering In Complete Sentences
EXP.THO. : Expression Thoughts
PAR. WR. : Paragraph Writing
CO. ANS : Correct Answers
COM.ANS : Complete Answers
M.CO.SEN : Meaniningful Complete Sentences

(FORMAT FOR MARKING)

SCHOOL:- SUBJECT: ENGLISH FULL MARKS - 100

Roll No.	Gen. Infor.	Question 1 Full Marks - 20				Question 2 Full Marks - 40								Question 3 Full Marks - 40						Total Marks
		UN.INS - [3]	CO. MEN [10]	CO.SP [5]	N.NSS [2]	UN.INS [5]	CO.SEN [10]	TOP.DES [2 1/2]	PUN. MA [2 1/2]	N.NSS [5]	EXP.THO. [5]	PAR.WR [5]	CO.SP. [5]	UN.INS [3]	CO.ANS [10]	AN.CO.SN. [15]	N.NSS [2]	CO.SP. [5]	PUN.MA. [5]	

Abbreviations:-

Gen. Infor. : General Information
UN.INS : Understanding Instructions
CO.MEN : Correct Meanings
CO.SP : Correct Spellings
N.NSS : Neatness
CO.SEN : Correct Sentences
TOP.DES : Topic Description

PUN.MA : Punctuation Marks
AN.CO.SN. : Answering In Complete Sentences
EXP.THO. : Expression Thoughts
PAR. WR. : Paragraph Writing
CO. ANS : Correct Answers

Subject - English **Time : 30 minutes**

1. নিম্নলিখিত শব্দগুলির বাংলা অর্থ লেখো :

i) Umbrella
ii) Sailor
iii) Sparrow
iv) Uncle
v) Wednesday
(vi) Peacock
(vii) Student
(viii) Afternoon
(ix) Tongue
(x) Shopkeeper.

2. তোমার বিদ্যালয় সম্পর্কে ইংরেজিতে পাঁচটি বাক্য লেখো ।

3. নীচের অংশটি পড়ে প্রশ্নগুলোর উত্তর দাও ।

Pulak lives in a village. His dog lives with him. He loves his dog. He gives him good food. His small boy, Aloke, also loves the dog. They play together.

One day Pulak is out. Aloke sleeps. A snake crawls into the room. The dog sees the snake. He shouts and kills it. Pulak returns home. He sees the dead snake. He understands everything. He is glad. He pats the dog.

Q. a) Where does Pulak Live?
b) Who lives with him?
c) What is the name of Pulak's son?
d) Whom does the dog kill?
e) What does Pulak see when he returns home?

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প্র:(১) তোমার প্রিয় খেলা সম্পর্কে বাংলা ভাষায় পাঁচটি বাক্য লেখো ।

প্র:(২) নীচের লেখাটি ভালো করে পড়ো এবং সম্পূর্ণবাক্যে উত্তর লেখো ।

অতি প্রাচীনকাল থেকেই আমাদের দৈনন্দিন প্রয়োজনে বহুরকম উদ্ভিদজাত পদার্থ নানাভাবে ব্যবহার করে আসছি । এর মধ্যে বস্ত্রশিল্প, কাগজশিল্প, কাষ্ঠশিল্প, ভেষজ ও বিবিধ রাসায়নিক শিল্প প্রভৃতি অন্যতম । কার্পাস ও শিমুল তুলো থেকে বস্ত্র তৈরী হয় । নানারকম গাছের কাঠ থেকে রাসায়নিক প্রক্রিয়ার মাধ্যমে কাগজ তৈরী হয় । সেগুন, শাল, জারুল প্রভৃতি গাছের কাঠ থেকে নানারকম আসবাবপত্র তৈরী হয় । সিঙ্কোনা, সর্পগন্ধা, বেলেডোনা, পেনিসিলিয়াম প্রভৃতি উদ্ভিদ থেকে নানারকম জীবনদায়ী ঔষধ তৈরী হয় । তাছাড়া দারুচিনি, লবঙ্গ, এলাচ প্রভৃতি মশলা এবং ধূপধুনা, চন্দন, আতর প্রভৃতি সুগন্ধী দ্রব্য, গঁদ, রজন, রবার প্রভৃতি বহুরকম রাসায়নিক পদার্থ আমারা নানারকম উদ্ভিদ থেকেই আহরণ করে থাকি । উদ্ভিদ ছাড়া আমাদের একদিনও চলে না ।

(ক) এমন তিনটি শিল্পের নাম লেখো যেক্ষেত্রে উদ্ভিদের ব্যবহার লক্ষ্য করা যায় ।

(খ) কোন প্রক্রিয়ার মাধ্যমে কাঠ থেকে কাগজ তৈরী হয় ?

(গ) জীবনদায়ী ঔষধ তৈরীতে সাহায্যকারী দুটি উদ্ভিদের নাম লেখো ।

(ঘ) উদ্ভিদ থেকে কোন কোন সুগন্ধী দ্রব্য তৈরী হয় ?

(ঙ) আসবাবপত্র তৈরী হয় কোন কোন গাছের কাঠ থেকে ।

প্র:(৩) নিম্নলিখিত প্রতিটি শব্দ দিয়ে পৃথক পৃথক বাক্য গঠন করো ।

(ক) বিদ্যুৎ; (খ) তুফান; (গ) শিকল; (ঘ) হাবুডুবু; (ঙ) তরল ।

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